

**PROCEEDINGS THE FIFTH INTERNATIONAL CONFERENCE  
ON SUSTAINABLE ECONOMIC DEVELOPMENT AND BUSINESS MANAGEMENT  
IN THE CONTEXT OF GLOBALISATION  
(SEDBM-5)**



**ACADEMY OF FINANCE, UNIVERSITY OF GREENWICH, INSTITUTE OF ECONOMICS - HO CHI MINH NATIONAL  
ACADEMY OF POLITICS, UNIVERSITY OF ECONOMICS AND LAW - VIETNAM NATIONAL UNIVERSITY HCM CITY**

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**FINANCIAL PUBLISHING HOUSE**



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## **OPENING REMARK**

### **INTERNATIONAL CONFERENCE ON SUSTAINABLE ECONOMIC DEVELOPMENT AND BUSINESS MANAGEMENT IN THE CONTEXT OF GLOBALISATION (SEDBM5)**

Globalisation has become a powerful and inevitable trend thanks to the positive growth of global financial market and the expansion of global economic linkage. In the context of multipolar structure of world politics, multinational companies are developing quickly and becoming increasingly powerful, science and technology are quickly closing the gaps in every sector at world level. The harmonised development between growth and socio-economic development, human development, effective exploitation and use of natural resources, and environment protection has become imperative for every nation. Globalisation, economic integration, and trade liberalisation have been important drivers of world economic growth in the recent decades. However, there are also anti-globalisation and anti-free-trade movements due to the economic inequality among regions, nations, and social classes. The development of trade protectionism, the tension between nations, and the widespread of COVID-19 as well as conflicts in some world regions have disrupted supply chains, reduced the total supply, increased the price of multiple goods and services, and increased inflation in many countries and regions. The world economic context has also moved to the more complexed and unforeseeable direction, creating instability for policies and threatening free trade and global economic integration process. The above-mentioned events and issues are affecting directly and seriously the political and economic situation of nations including Vietnam.

Vietnam has been engaging in globalisation for about 35 years, since the success of the 6<sup>th</sup> National Party Congress in 1986. In the trend of economic globalisation, Vietnam will have both great opportunities and great challenges. Competition will be more intense, with more opponents, on a wider, deeper and more difficult scale. The interdependence between countries increased dramatically. Over the years, the international integration process of Vietnam has reached a new level due to active engagement. Vietnam has become a part of Asia with extensive dynamism, openness, diversification and investment in research and development, including the digital economy. Vietnam has been evaluated an important partner in all sectors with dynamic economy, safe and friendly investment environment, stable political system that facilitates foreign relations and international economic cooperations. International integration process has contributed to promoting the position of Vietnam, developing economy and improving per capita income; creating pressure and condition to improve economic regime; improving national and corporate competitiveness, etc. However, the integration also brings about challenges for the socio-economic development of Vietnam. In the coming years, Vietnam needs to speed up global economic integration and digital transformation process to take advantage of the Industrial Revolution 4.0.

Especially, political determination, social consensus, capacity building, effectiveness and efficiency of state management; business liberalisation, community and corporate participation; international cooperation activities for economic development, social security, exploitation and use of natural resources, and environmental protection are of special importance to achieve Vietnam's strategic goals of sustainable development in the 21<sup>st</sup> century.

The 13<sup>th</sup> National Congress emphasised that new growth model should make use of the opportunities of the Fourth Industrial Revolution and base on science, technology, and innovation. The 13th National Congress has also determined development milestones, in which, becoming a developed, high-income country by 2045 is defined the most important goal.

With the hope to create an academic forum for international and local researchers on sustainable development issues, the Academy of Finance, in association with the University of Greenwich, Institute of Economics – Vietnam National Academy of Politics Ho Chi Minh City, University of Economics and Law – Vietnam National University Ho Chi Minh City organises the Fifth International Conference on “Sustainable Economic Development and Business Management in the Context of Globalization” (SEDBM5). The Organising Committee has invited hundreds of organisations, researchers and scientists to participate in the SEDBM5 and has received more than 130 papers. After reviewing, the Organising Committee has selected 117 qualified papers to publish in the proceeding. Suggestions and summaries from the research findings of the accepted papers have clearly reflected the issues of sustainable economic development and business management in the context of globalisation and before the emerging opportunities and challenges.

On behalf of the Organising Committee, we wish to express our deep thanks to the researchers, experts, and managers who have contributed to the conference. We thank the agencies, organisations and institutions who have supported and facilitated the authors. Finally, we wish you health, success and happiness! We wish that the conference will be successful!

**ORGANISING COMMITTEE**

## **WELCOME NOTES**

Dear Friends and Colleagues,

We are glad to welcome you to the International Conference on “**Sustainable economic development and business management in the context of globalisation**” (SEDBM 5), which is jointly organized by *Academy of Finance (Vietnam), Institute of*

*Economics - Ho Chi Minh National Academy of Politics, University of Economics and Law - Vietnam National University in HCM City and University of Greenwich (United Kingdom).*

As a result of the close collaboration between the Academy of Finance, Institute of Economics - Ho Chi Minh National Academy of Politics, University of Economics and Law - Vietnam National University in HCM City and the University of Greenwich, the International Conference SEDBM 5 is organised with the participation of world-leading experts in finance, accounting, audit, economic and business administration, serving as a point of convergence for researchers, practitioners and policy-makers to meet, share and exchange their ideas. The International Conference SEDBM 5 will strive to offer not only plenty of networking opportunities, providing you with the opportunity to interact with the leading researchers from both academia and universities, but also an environment to engage in stimulating discussions about research topics and practices. We are especially honoured to have reputable attendances of:

**Assoc. Prof. Farhad Taghizadeh-Hesary**, *Associate Professor of Economics, Tokai University*

**Prof. Naoyuki Yoshino** - *Dean of the Asian Development Bank Institute (ADBI) and Professor Emeritus at Keio University, Tokyo, Japan*

We are indebted to members of the Organizing Committee, particularly **Assoc. Prof. Trong Co Nguyen** (*President of Academy of Finance, Vietnam*), for their support to make this International Conference a great success.

We wish you all an intellectually stimulating and productive conference!

**On behalf of the Organizing Committee,**

**National Teacher. Assoc. Prof. Trong Co Nguyen**



## ACADEMY OF FINANCE

The Academy of Finance (AOF) is a public and research-oriented university, affiliated to the Ministry of Finance, Vietnam. The AOF was officially established under the Decision No 120/2001/ QD-TTg dated August 17th, 2001 of the Prime Minister by integrating the Hanoi University of Finance and Accounting (founded in 1963), the Finance Research Institution (founded in 1961) and the Financial Training Center (founded in 1995). The main campus of the Academy of Finance is located in Hanoi.

The mission of Academy of Finance is to provide expertise in research and training of professional finance and accounting to the society, the mission has been defined for our 55-year history with outstanding achievements and contributions branded by our lecturers, researchers and students. The AOF established self-evaluation council since 2006 according to regulations of MOET Vietnam. This council significantly helped improve the academic performance, and in April 2016, AOF was accredited by Center for Education Accreditation (CEA) – Association of Vietnam Universities and Colleges (AVUC). The accreditation result was published according to the Decision 10/QD-KDCLGD dated February 20th, 2017 of AVUC ranking AOF in top 5 best universities in Vietnam. The Academy of Finance offer a high quality of training and research through 14 faculties: Fundamental Sciences, Political theories, Public Finance, Tax and Customs, Corporate Finance, Banking and Insurance, International Finance, Accounting, Business administration, economic Information. Languages, Economics, Master and Doctoral training, Part-time training, two centers: Center for Languages and Informatics Training, Information Technology Center, 2 research institutes: Institute for International Finance Education (IIFE) and Institute of Economics and Finance and 13 support divisions.

AOF offers a rich training programs included ordinary undergraduate/graduate programs spread in 06 academic majors: Finance and Banking, Accounting and Auditing, Business Administration, Management Information, Economic and Financial English, Economics. The AOF also offer to international and Vietnamese students with different choices partially/totally taught in English such as High Advanced Program or Dual Degree Programme (DDP - a Joint Training Programme between the Academy of Finance (Institute of International Finance Education) and the University of Greenwich (UK). Throughout its history, AOF's qualified scientists and lecturers have been supporting more than 85,000 students including 5,000 masters and 300 doctors and additionally 500 international students for Laos and Cambodia in the last 55 years. Significantly, a large number of AOF's graduates are leaders of the Government, ministries, local authorities and businesses. The academy has also been recognized for conducting thousands of valuable research projects for the policy makers in economic development of the State. The rich tradition and custom makes AOF unique among the other universities and colleges in Vietnam and attract thousands of learners to study at the academy annually.

The valuable contributions of AOF to the development of the State in training and doing research has been respected publicly, the academy has been recognized with national unique awards. Many AOF alumni are key people in the Government and Local Administrations. In the



process of globalization and the advent of the Industry 4.0, the AOF Management Board sets out following major development directions:

- Intensively develop training and research performance, maximize the core values to adapt to the emerging demands of the intellectual economy and the Industry 4.0.

- Diversify training courses, renovate academic management measures, improve the professional capacity, and improve self-study spirit with creativity and experience.

- Improve the research capacity in the manner that harmonizes fundamental studies with applied studies. Actively and comprehensively integrate into regionalization and globalization process regarding training, capacity building and research activities.

- Conduct academic management reform in close relation with financial autonomy and social accountability, create a new academic environment with high openness, creativity and internationalism, continuously attract excellent staffs and scholars to work and do research at AOF.



## UNIVERSITY OF GREENWICH

The University of Greenwich is a public and research-oriented university located in London, in the United Kingdom. It has three campuses in London and Kent, England. These are located at Greenwich, in the grounds of the Old Royal Naval College, and in Avery Hill and Medway. Previous names include Woolwich Polytechnic and Thames Polytechnic.

The university's range of subjects includes architecture, business, computing, mathematics, education, engineering, humanities, maritime studies, natural sciences, pharmacy and social sciences.

The university dates back to November 1891, when Woolwich Polytechnic, the second-oldest polytechnic in the United Kingdom, opened in Woolwich. In 1970, Woolwich Polytechnic merged with part of Hammersmith College of Art and Building to form Thames Polytechnic. In the following years, Dartford College (1976), Avery Hill College (1985), Garnett College (1987) and parts of Goldsmiths College and the City of London College (1988) were incorporated.

In 1992, Thames Polytechnic was granted university status by the UK government (together with various other polytechnics) and renamed University of Greenwich in 1993. In 2001, the university gave up its historic main campus in the Bathway Quarter in Woolwich, relocating to its current main campus in Greenwich, a UNESCO World Heritage site on the banks of the River Thames, and close to the financial centres of the City and Canary Wharf. The location is genuinely unique combining the advantages of such a beautiful and historic setting with being 15 minutes by light rail from the centre of London.

The campus is home to the Business School and the Faculty of Liberal Arts and Sciences. The campus also includes university's Greenwich Maritime Institute, a specialist maritime management, policy and history teaching and research institute.

The Business School at the University of Greenwich combines strengths in teaching and research with an emphasis on equipping our students with the practical knowledge and skills sought by employers. It offers a comprehensive range of high-quality undergraduate degrees through five departments: Accounting & Finance; International Business & Economics; Human Resources & Organisational Behaviour; Marketing, Events & Tourism; Systems Management & Strategy. Many of the programmes are accredited by key UK professional bodies and course content is constantly revised to reflect current business priorities and the demands of employers.

The campus has a large library at Stockwell Street in the centre of Greenwich which houses an extensive collection of books and journals, language labs and a 300-PC computing facility. Other facilities include specialist computer laboratories including one at Dreadnought centre, a TV studio and editing suites. The Stephen Lawrence Gallery at the Stockwell Street building, showcases the work of contemporary artists and is linked to the Department for Creative Arts.



Ho Chi Minh National Academy of Politics is a national Centre for training and researching on political theories and a consultancy body of the Communist Party of Vietnam. The Academy has four Sub-academies in across Vietnam and the Academy of journalism and propaganda with nearly 2,200 employees. Since its initial foundation as a Party school under the name of Nguyen Ai Quoc, the Ho Chi Minh National Academy of Politics has gone through its 68 years of development.

As the subordinate organization of both the Central Executive Committee of the Vietnam Communist Party and the Government, subjected to ongoing and direct leadership of the Politburo and the Secretariat, Ho Chi Minh National Academy of Politics has made significant contribution to the Party's cause of cadre training and theoretical research, the revolutionary cause of national liberation and the construction and protection of the Socialist Republic of Vietnam. The development of the Academy has always been closely linked to the revolutionary cause of the Party and the People. Over the years, consistent with the strategic goals and missions, the Ho Chi Minh National Academy of Politics has always been in line with its strategic missions and goals, fulfilled the political tasks assigned by the Party, the State and the People. The Academy has always held onto and taken the lead in the political, ideological and theoretical fronts, thus protecting the core values of Marxism, Leninism, Ho Chi Minh Thought and guidelines of the Party. Generations of the Academy's graduates have well performed their job in different fields of politics, economy, society, culture, external affairs, security and national defence, etc. Many of them are holding key positions in the political system of the country. During its history, the Academy has made great contributed to the personnel training and theoretical research of the Party, served the revolution for national liberation, construction socialism and protected the Socialist Republic of Vietnam. In the 21st century - the century of globalization, information and knowledge sharing and intellectual integration has intensified the demand for training the leaders, managers and strategic cadres for the Party and State; central and local organizations and institutions. This is both the challenge and opportunity for the Academy to continue its mission in academic and scientific affairs, building on the history and traditions and contributing to the glorious cause of the Party and the nation.

Institute of Economics, Ho Chi Minh National Academy of Politics was founded in 1960 and has been in charge of providing courses of economic development and economic management to high-ranking officials in the political system of Vietnam. The Institute also has Master and Ph.D. programs in economic development and economic management. Currently, the Institute has about 38 employees, including 11 associate professors, 11 Doctors of Economics, 14 masters and 2 bachelors. The Institute and its faculties have published hundreds of books and articles in national and international journals.



The University of Economics and Law (UEL) - a member of Vietnam National University in HCM City (VNU-HCM) - was founded by virtue of Prime Minister's Decision No. 337/QĐ/TTg dated March 24<sup>th</sup>, 2010, formerly known as Faculty of Economics under direct authority of VNU-HCM by virtue of VNU-HCM President's Decision No. 441/QĐ/ĐHQG/TCCB.

University of Economics and Law (UEL) is a higher education institution as well as scientific research and technology transfer center with high quality in the fields of economics, law and management in response to the demands of socio-economic development in the process of industrialization, modernization and global integration in Vietnam.

**MISSION:** Promoting the development of society through high-quality research, training and other services in the fields of economics, law and management.

**VISION:** Functioning as research oriented university. Becoming an institution of international standard, in the ranking of prestigious universities in Asia. Training learners who are capable of working in a global environment. Being the center of scientific research and a policy consulting pioneer Viet Nam in the field of economics, law and management.

### **ACCREDITATIONS:**

#### *About University of Economics and Law*

UEL has had 09 programs were evaluated to meet AUN - QA standards : International Economic Relations, Finance – Banking, Economics, Accounting, Civil Law, Business Administration, Public Economics and Management, Management Informatics.

#### *About Vietnam National University Ho Chi Minh City (VNU-HCM)*

Rankings by sciences subject field of THE in 2021 evaluated VNU-HCM with a rank of Top 601+ in the field of Business and Economics. VNU-HCM ranks in the top 801-1000, in the Top 68% of the world's best universities by the QS World Rankings 2021.

**ASSOCIATE PROFESSOR NGUYEN TRONG CO**  
**NATIONAL TEACHER, PRESIDENT OF THE ACADEMY OF FINANCE**



Assoc. Prof. Nguyen Trong Co is the President of the Academy of Finance. He has been working for the Academy of Finance since he was young and held different positions such as lecturer, Head of Financial Analysis Department, Deputy Head of Human Resources Department, and Vice President before being nominated the President of Academy of Finance in 2014.

He is the Editor of the Journal of Finance and Accounting Research and serves the Scientific Board of Finance Research Sector as Vice President and a member of *Scientific Board of Banking Research Sector*.

He was also nominated as honour member of FCPA Australia.

Assoc. Prof. Nguyen Trong Co is the author/coauthor of more than 21 valuable text books and supplementary materials such as “Financial Analysis”, Finance Publishing House, 2017, “Auditing management and usage of mineral resources for sustainable development in Viet Nam”, Finance Publishing House, 2016 and etc.

He has researched actively with more than 20 research projects spread on different fields: corporate finance and public finance, and technological markets. In the Academy of Finance, he has published more than 70 articles in both local and international journals.

**DR. NICK HAND**  
**DIRECTOR OF PARTNERSHIPS AND INTERNATIONAL, BUSINESS SCHOOL,**  
**UNIVERSITY OF GREENWICH (UK)**



Nick Hand qualified with the ACCA in 1993, holds a Masters degree in Operational Research and is a Senior Fellow of the Higher Education Academy. Nick is Director of Partnerships and International in the University of Greenwich Business School.

He was previously the Head of Department of Accounting and subsequently spent six years posted overseas, based in China, developing the Business School's international partnerships. He has substantial experience in the development of academic programmes both at the UK campus and at partner institutions internationally and particular in the South-East/East Asia region. Nick's research interests are in the areas of efficiency measurement and his publications are mainly in this area and particularly in the area of the application of mathematical models of measuring bank efficiency.

**ASSOCIATE PROFESSOR BUI VAN HUYEN**

**DIRECTOR OF THE INSTITUTE OF ECONOMICS, HO CHI MINH ACADEMY OF POLITICS**



Assoc. Prof. Bui Van Huyen is the Director of the Institute of Economics, Ho Chi Minh Academy of Politics. He serves as a member of Central Theoretical Council. He has been in the profession of lecturing and doing research in the field of economics for 25 years at the Institute of Economics and other institutions. He has expertise and experience in teaching and doing research on economic management and economic institutions. He is the author or co-author of more than ten books and textbooks and has published more than 50 articles in national and international economic journals.

**ASSOCIATE PROFESSOR HOANG CONG GIA KHANH**  
**DIRECTOR OF THE INSTITUTE OF ECONOMICS, HO CHI MINH ACADEMY OF POLITICS**



Assoc. Prof. Hoang Cong Gia Khanh has been working as a lecturer and executive manager at the University of Economics and Law (UEL), Ho Chi Minh City Vietnam National University (VNUHCM) for more than 25 years. Before being appointed as the President of UEL since 2022, he was the former director of the Institute for Development and Research in Banking Technology, former dean of the Faculty of Finance – Banking.

He has spent many years on developing undergraduate and postgraduate programs at the university, researching and consulting on strategic planning, leadership skills, digital transformation, finance and banking. Moreover, Assoc. Prof. Hoang Cong Gia Khanh has participated in many strategic consulting activities for various enterprises and governmental organizations regarding their financial management, credit, exchange rate, risk management, project management, operational efficiency, etc. Assoc. Prof. Hoang Cong Gia Khanh is a professor in Finance and Banking. With this knowledge background, he has published more than 50 scientific papers and written many specialized books on fiscal policy, monetary policy, central bank management, bank supervision under Basel framework, gold market policy in Vietnam, commercial bank management, fintech, digital banking and digital transformation. During the Covid-19 pandemic, he has done many researches on creating the motivation for Vietnamese economic recovery in general and Ho Chi Minh City as well as others provinces in particular. Among these publications, his two most famous books in the field are “*Digital Banking: From Innovation to Revolution*” (2019, 2021) and “*Legal Framework for FinTech Development: International Experiences and Recommendations for Vietnam*” (2020).

**KEYNOTE SPEAKER****PROFESSOR NAOYUKI YOSHINO**

**Professor Naoyuki Yoshino** is the Chief Executive Officer of the ADBI; Dean of the Asian Development Bank Institute (ADBI) and Professor Emeritus at Keio University, Tokyo, Japan. He obtained his PhD from Johns Hopkins University (United States) in 1979 where his thesis supervisor was Sir Alan Walters, economic adviser to former British Prime Minister Margaret Thatcher.

Naoyuki has been a visiting scholar at the Massachusetts Institute of Technology (United States) and a visiting professor at various universities including the University of New South Wales (Australia), Fondation Nationale des Sciences Politiques (France), and University of Gothenburg (Sweden). He has also been an assistant professor at the State University of New York at Buffalo and an economics professor at Keio University. Naoyuki's professional career includes membership in numerous government committees. He was named Director of the Japan Financial Services Agency's (FSA) Financial Research Center (FSA Institute) in 2004 and is now Chief Advisor. He was appointed as Chair of the Financial Planning Standards Board in 2007. He has served as Chairperson of the Japanese Ministry of Finance's Council on Foreign Exchange as well as its Fiscal System Council (Fiscal Investment and Loan Program Section). Additionally, he has been a Board Member of the Deposit Insurance Corporation of Japan and President of the Financial System Council of the Government of Japan. He was nominated for inclusion in Who's Who in the World for 2009 and 2013, and was named one of the Top 100 Educators in 2009. He obtained honorary doctorates from the University of Gothenburg (Sweden) in 2004 and Martin Luther University of Halle-Wittenberg (Germany) in 2013. He also received the Fukuzawa Award in 2013 for his contribution to research on economic policy.



**KEYNOTE SPEAKER**  
**ASSOCIATE PROFESSOR FARHAD TAGHIZADEH-HESARY**



Farhad Taghizadeh-Hesary, Associate Professor of Economics, Tokai University; Visiting Professor, Faculty of Economics, Keio University.

Farhad Taghizadeh-Hesary completed his master degree in energy economics from Tehran University, Iran, in 2011. Subsequently, He obtained a Ph.D. in energy economics from Keio University in 2015 with a scholarship from the government of Japan (MEXT). He has taught as an assistant professor at Keio following the completion of his Ph.D. until March 2018 and as an assistant professor at the faculty of political science and economics of Waseda University 2018-2020.

He is a recipient of the Excellent Young Researcher (LEADER) status from the Ministry of Education, Culture, Sports, Science, and Technology (MEXT) of Japan with a five years' competitive research grant (2019-2024). Presently he is also a visiting professor at Chiang Mai University (Thailand) and a distinguished research fellow and external scientific member at the University of Economics Ho Chi Minh City (Vietnam). Assoc. Prof. Farhad Taghizadeh-Hesary was a visiting scholar, visiting professor, and visiting fellow at several institutions and universities such as the Institute of Energy Economics of Japan (IEEJ) (2013–2015); the Credit Risk Database (CRD) association of Japan (2014–2015); Graduate School of Economics of the University of Tokyo (2016–2017), Griffith University, (Australia; 2019); The University of Tasmania, (Australia; 2019).

He has published a wide range of topics, including energy economics, energy policy, green finance, small and medium-sized enterprises finance, monetary policy, banking, and the Asian and Japanese economies. He has also led, managed, and involved in dozens of research, capacity building and training (CBT) and consulting projects on energy, economic, and financial related topics for the international organizations and institutions, including; United Nations; Asian Development Bank, Asian Development Bank Institute; Economic Research Institute for ASEAN and East Asia; Central Asian Regional Economic Cooperation Institute; and financial institutions and governments of various countries.

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# THE CORRELATION IN THREE AUTONOMY-RELATED CONTENTS IN PUBLIC HOSPITALS: EVIDENCE FROM HANOI

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**Abstract:** *The purpose of this study is to test the correlation in three autonomy-related contents in public hospitals. Exploratory factor analysis (EFA), confirmatory factor analysis (CFA) and structural equation modeling (SEM) methods are used to analyze data collected from surveying 41 public hospitals in Hanoi. Research results show that there is a weak relationship between each content. In fact, hospitals have not been given full autonomy even as the level of financial autonomy has increased. The explanation for this is the limited capacity of facilities and human resources in many hospitals and the binding regulations on professional expertise and human resources of the governing agencies.*

*Keywords:* *autonomy, financial autonomy, correlation analysis*

## 1. INTRODUCTION

Vietnam started to implement hospital autonomy in 2002, but it was not until 2006 that this policy was implemented in all public hospitals nationwide. In 2015, the Government issued Decree 16/2015/ND-CP to promote the assignment of autonomy more comprehensively to public non-business units on all three contents of autonomy in performing tasks, Ownership of organizational structure and personnel, financial autonomy. Decree 16 divides public hospitals into four categories corresponding to four levels of financial autonomy. Type 1 are hospitals that self-finance investment and recurrent expenditures. Type 2 are hospitals that cover their own recurrent expenditures. Type 3 are hospitals that cover a portion of their recurrent expenditure. Finally, type 4 are hospitals that are fully covered by the state budget.

Theoretical and experimental studies have shown the positive effects of financial autonomy on the operation of public hospitals. Financial autonomy has helped public hospitals become more active. Hospitals no longer only follow the plan put down by the superior management agency, but actively develop other service activities. In contrast, the expansion of health service activities; joint ventures and associations to invest in building facilities and purchasing new equipment; the change in service attitude of medical staff has helped hospitals to attract patients, increase the number of visits and, as a result, increase the hospital's revenue (London, 2013) (World Bank & Ministry of Health, 2011). In other words, studies have shown evidence of a relationship between the three components of hospital autonomy. However, there have been no empirical studies using correlation analysis to test the relationship between the three autonomous contents of public hospitals. Therefore, this study was conducted to fill this gap.

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Hanoi is one of the leading places in implementing the autonomy of public hospitals. Therefore, we conducted a survey on the actual practice of autonomy in 41 public hospitals in Hanoi, thereby determining the correlation relationship between the three autonomy issues in these hospitals. Research results show that although most of public hospitals in Hanoi have reached level 2 in terms of financial autonomy, autonomy in performing tasks, organizational apparatus and personnel is still limited. Research has shown barriers affecting the implementation of full autonomy in hospitals.

In addition to the introduction, the structure of the study consists of five sections: section two provides an overview of research on public hospital autonomy, section three proposes a research model, section four presents data and methodology, section five is the results and discussion, finally section six is the conclusion and contribution of the study.

## **2. LITERATURE REVIEW**

Hospital autonomy in developing countries was the subject of discussion in the study. Research by Ravaghi et al (2018) has systematically reviewed 32 studies on hospital autonomy in developing countries. The study points out that four issues are focused on by scholars, including: (i) incentives to encourage governments in developing countries to implement hospital autonomy; (ii) measures to enforce hospital autonomy; (iii) hurdles to hospital autonomy; and (iv) the effects of hospital autonomy, etc. The study shows that there are three main motivations that encourage governments to implement the policy of hospital autonomy: improving the quality of health services, strengthening accountability and improve hospital efficiency. To prepare for the implementation of hospital autonomy, developing country governments have developed health insurance systems and public funds to support low-income and disadvantaged people. Besides that, they also create rules and regulations, develop appropriate policies to ensure the enforcement of hospital autonomy. However, some barriers affecting the implementation of hospital autonomy are mentioned in the studies such as: weak capacity of hospital management and staff, lack of legal regulations, lack of accountability, lack of information support for stakeholders, limited decision-making power. Studies also show some outstanding results of implementing hospital autonomy in developing countries such as: improving labor productivity of health workers, improving quality of medical examination and treatment, increasing number quality of medical services, increase revenue, increase the income of medical staff and decrease the social function of hospitals (Ravaghi, Foroughi, Nemati, & Bélorgeot, 2018).

Hospital autonomy studies in Vietnam also showed similar results. Expand and develop on-demand services, increase diagnostic imaging, high-tech testing; increase revenue; increase investment capital in equipment and infrastructure; increased income of medical staff is the result of hospital autonomy. These benefits are mainly achieved at central hospitals and hospitals in big cities because they can attract a large number of patients who can afford to pay for medical services. high quality and able to mobilize investment capital of the society (World Bank, 2011); (Wagstaff & Bales, 2012); (London, 2013); (Võ & Löfgren, 2019). Besides, studies also show the negative effects of autonomy in the health sector such as increased costs and abuse of high-tech services (World Bank & Ministry of Health, 2011). Autonomy also affects personnel management in hospitals. The working attitude of medical staff has changed significantly in the autonomous

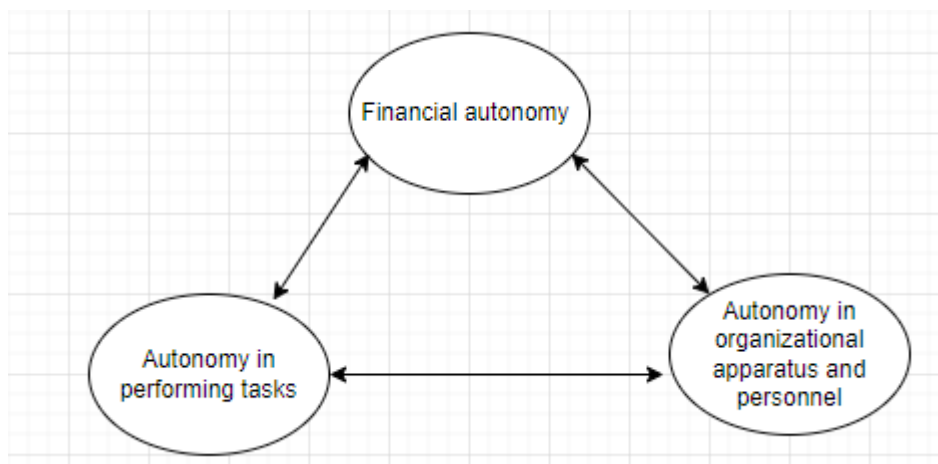


environment, an enterprise-oriented working environment has begun to take shape in autonomous hospitals in Vietnam (World Bank, 2011); (London, 2013). Initial studies show the impact of financial autonomy on hospital operations. However, there have been no empirical studies using correlation analysis to assess the relationship between the three hospital autonomy issues in Vietnam. This is the gap for us to carry out this study.

### 3. RESEARCH HYPOTHESIS

Hospital autonomy is the process of increasing self-determination in hospital management while maintaining public ownership and government control. The essence of hospital autonomy is the transformation from a centralized management mechanism to the formation of medical service delivery organizations. The goal of the autonomy process is to improve the operational efficiency of public hospitals while ensuring the social functioning of these hospitals (London, 2013), (Ravaghi, Foroughi, Nemati, & B elorgeot, 2018).

Implementing hospital autonomy means that the Government gives hospitals decision-making power on all hospital-related issues including: autonomy in performing tasks; autonomy in organizational structure, autonomy in personnel, and financial autonomy. Studies conducted in hospitals in Vietnam, Indonesia, Uganda and Zambia show that financial autonomy leads to the expansion of medical services, reshaping service quality based on people's ability to pay. illness in hospitals. At the same time, financial autonomy also affects human resource management at hospitals. Financially autonomous hospitals have autonomy in hiring and firing full-time staff (Ravaghi, Foroughi, Nemati, & B elorgeot, 2018), (London, 2013) (World Bank & Ministry of Health, 2011). In other words, hospital autonomy contents are interrelated as shown in Figure 1.



**Figure 1. The relationship between the three aspects of hospital autonomy**

Hypothesis 1: There is a correlation between financial autonomy and autonomy in performing task

Hypothesis 2: There is a correlation between financial autonomy and autonomy in organizational apparatus and personnel

Hypothesis 3: There is a correlation between autonomy in performing task and autonomy in organizational apparatus and personnel

## 4. RESEARCH METHODOLOGY

### 4.1. Research data

We have developed a scale to assess the degree of hospital autonomy based on research (Verhoest, Peters, Bouckaert, & Verschuere, 2004) and regulations on autonomy of public non-business units in Decree No. 16/2015/ND-CP. The observed variables are measured by the Likert 5 scale; in which, 1- the highest degree of autonomy and gradually decreases to level 5 - the lowest degree of autonomy.

Level 1. The hospital makes its own decisions, the upper management agencies do not participate or participate only a little.

Level 2. The hospital makes its own decisions based on opinions of upper management agencies.

Level 3. The hospital makes its own decisions within the framework of rules and conditions set by the upper management agencies.

Level 4. The upper management agencies make decisions based on the opinions of the hospital.

Level 5. The upper management agencies make decisions without consulting the hospital.

**Table 1. Scale to assess the degree of autonomy of public hospitals**

Encode	The scale
CMNV1	Plan to perform the tasks assigned by the upper management agencies.
CMNV2	Plan to carry out other activities (besides the tasks assigned by the upper management agencies) in accordance with the functions and tasks of the unit.
CMNV3	Measures to perform tasks assigned by upper management agencies.
CMNV4	Measures to perform other activities (besides the tasks assigned by the upper management agencies) in accordance with the functions and tasks of the unit.
TCBM1	Arrange and consolidate the organizational structure of the unit.
TCBM2	Arrange and select personnel according to the work needs and organization of the unit's activities.
TCBM3	Appointment of leadership positions in departments in the unit.
TCBM4	Income of employees in the unit.
TCBM5	Criteria for evaluating the unit's personnel.
TCTC1	The level of collection for the tasks assigned by the upper management agencies.
TCTC2	The level of charge for other service provision activities (besides the tasks assigned by the superior management agency) is suitable to the functions and tasks of the unit.
TCTC3	Spending norms.
TCTC4	Borrowing capital, raising capital.

*Source: Research team*

We have developed a questionnaire to investigate the degree of autonomy of public hospitals in Hanoi City based on the scales presented in Table 1. We sent the questionnaire via email to

500 subjects. The survey included unit leaders, deputy heads of functional departments and doctors, nurses (medical staff) who are working at 41 public hospitals under Hanoi City from September to October of 2021. After two months, the results received 458 valid answer samples. The characteristics of the survey subjects are shown in the statistical chart of medical data

**Table 2. Characteristics of survey subjects**

Department	Number of samples	Ratio
Leadership	53	12%
Professional - professional department	224	49%
Finance and accounting department	110	24%
Administrative department – organization	70	15%
Working years at the unit		
Less than 10 years	137	30%
From 10 years to less than 20 years	207	45%
From over 20 years	112	25%
Total	456	100%

*Source: Research team*

**Table 3. Descriptive statistics of observed variables**

. summarize CMNV1 CMNV2 CMNV3 CMNV4 TCBM1 TCBM2 TCBM3 TCBM4 TCBM5 TCTC1 TCTC2 TCTC3 TCTC4

Variable	Obs	Mean	Std. Dev.	Min	Max
CMNV1	456	3.083333	.8131249	1	5
CMNV2	456	2.769737	.8805872	1	5
CMNV3	456	2.855263	.8624618	1	5
CMNV4	456	2.587719	1.001637	1	5
TCBM1	456	2.796053	.8770992	1	5
TCBM2	456	2.710526	.8917072	1	5
TCBM3	456	2.622807	.9318808	1	5
TCBM4	456	2.506579	.9766283	1	5
TCBM5	456	2.653509	.964484	1	5
TCTC1	456	3.175439	.8227065	1	5
TCTC2	456	2.765351	.8332283	1	5
TCTC3	456	2.844298	.8173196	1	5
TCTC4	456	2.780702	.9608492	1	5

#### 4.2. Research Methodology

To evaluate the correlation between the three autonomy issues at public hospitals in Hanoi, we use quantitative analysis with the following tools: assessment of scale reliability, factor analysis, discovery factor (EFA) and structural equation modeling (SEM).

The scale is evaluated by Cronbach's Alpha reliability coefficient to test the rigor of the scale and variables. Exploratory factor analysis (EFA) is used to summarize a set of observed variables into certain factors that measure different aspects of research concepts. Confirmatory factor analysis (CFA) allows to test how well the observed variables represent the factors. CFA is the next step of EFA. CFA was used to confirm the univariate, multivariate, convergent and discriminant validity of the scale. Finally, we use structural equation modeling (SEM) to test the proposed research theoretical model. SEM shows the relationship between pre-implantation variables.

#### 4.3. Model fit test

Testing the reliability of the scale by Cronbach's Alpha coefficient, giving the coefficient  $\alpha = 0.88 > 0.8$ , showing that the questions in the questionnaire ensure reliability and relevance.

**Table 4. Cronbach's Alpha test for autonomous content questions of the public hospitals in Hanoi**

. alpha CMNV1 CMNV2 CMNV3 CMNV4 TCBM1 TCBM2 TCBM3 TCBM4 TCTC1 TCTC2 TCTC3 TCTC4

Test scale = mean(unstandardized items)

Average interitem covariance: .3108916  
 Number of items in the scale: 12  
 Scale reliability coefficient: 0.8857

*Source: Processing survey data*

KMO test, results in KMO coefficient = 0.827 in the range (0.5 - 1). Bartlett test, giving p-value = 0.000. Thus, the variables have no autocorrelation, suitable for EFA analysis and EFA analysis has statistical significance.

**Table 5. KMO and Bartlett test for autonomous content questions of the public hospitals in Hanoi**

Determinant of the correlation matrix  
 Det = 0.002

Bartlett test of sphericity

Chi-square = 2824.039  
 Degrees of freedom = 66  
 p-value = 0.000  
 H0: variables are not intercorrelated

Kaiser-Meyer-Olkin Measure of Sampling Adequacy  
 KMO = 0.827

*Source: Processing survey data*

**4.4. Results of exploratory factor analysis**

*Exploratory factor analysis (EFA)* gave the results as shown in Table 5. Based on this result, we have removed inappropriate variables (load factor less than threshold 0.6) TCBM1, TCBM2 and TCTC4. Performing the second exploratory factor analysis gave the results as shown in Table 6. The correlation of the hidden variables was determined through the CFA confirmatory factor analysis and the results are shown in Figure 1.

**Table 6. Result of exploratory factor analysis for autonomous content questions of public hospitals in Hanoi**

Rotated factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Uniqueness
CMNV1		0.7632		0.2796
CMNV2		0.7723		0.2811
CMNV3		0.7488		0.3426
CMNV4		0.7373		0.1985
TCBM3	0.8237			0.2499
TCBM4	0.7947			0.2746
TCBM5	0.7623			0.3428
TCTC1			0.8674	0.2184
TCTC2			0.6312	0.2879
TCTC3			0.7642	0.2681

(blanks represent abs(loading)<.6)

Factor rotation matrix

	Factor1	Factor2	Factor3
Factor1	0.6610	0.5852	0.4697
Factor2	0.1419	-0.7122	0.6875
Factor3	-0.7368	0.3877	0.5538

Source: Processing survey data

**Table 7. Summary of observed variables on autonomy of hospitals in Hanoi**

Group name	Variable name	Meaningful	Cronbach Alpha
CMNV	CMNV2	Plan to carry out other activities (besides the tasks assigned by the upper management agencies) in accordance with the functions and tasks of the unit.	0.8233
	CMNV3	Measures to carry out the tasks assigned by the upper management agencies (city or district level)	
	CMNV4	Measures to perform other activities (besides the tasks assigned by the upper management agencies) in accordance with the functions and tasks of the unit.	

TCBM	TCBM3	Criteria for evaluating the unit's personnel	0.8412
	TCBM4	Income of employees in the unit	
	TCBM5	Arrange and consolidate the organizational structure of the unit	
TCTC	TCTC1	The rate of collection for tasks assigned by the upper management agencies (city level, district level).	0.7959
	TCTC2	The level of charge for other activities (besides the tasks assigned by the upper management agencies) is suitable to the functions and tasks of the unit.	
	TCTC3	Spending standard.	

Source: Research team

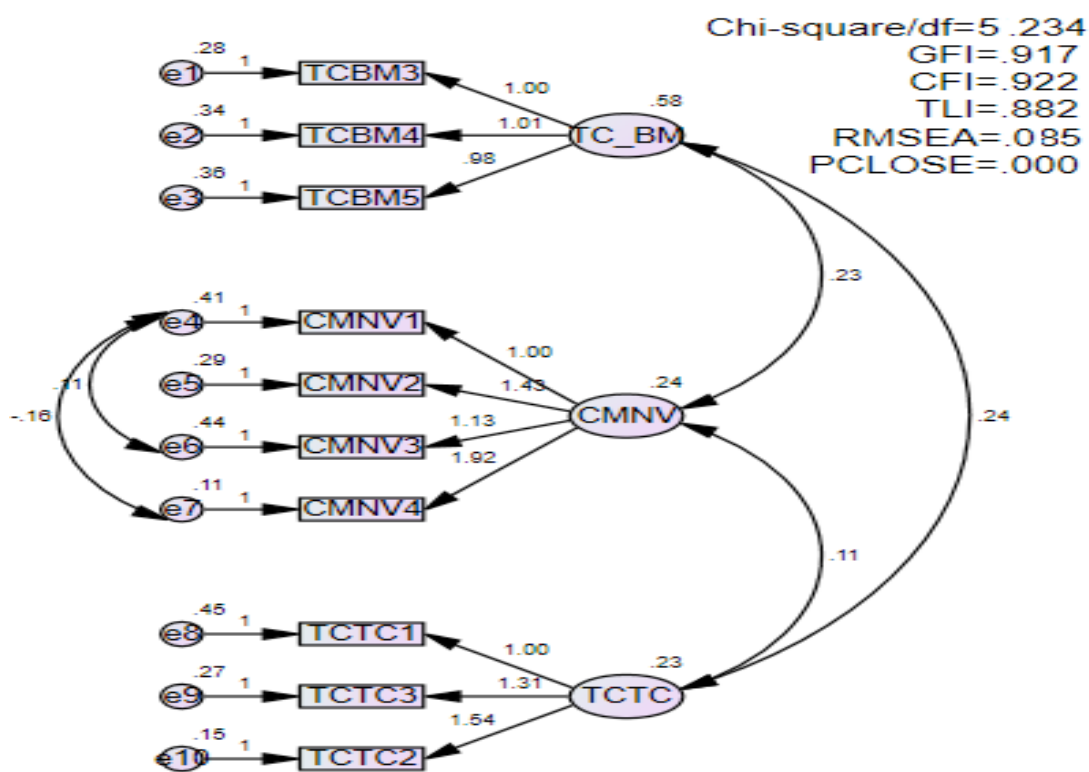


Figure 2. Correlation among hospital autonomy content

Source: Processing survey data

The results of the model testing determine that the model fits the problem data (chi-square/df = 5.247, RMSEA = 0.085). The model shows that between the two variables of professional autonomy, professional autonomy (CMNV) and financial autonomy (TCTC) are independent of each other. Meanwhile, autonomy in expertise and tasks (CMNV) and autonomy in apparatus and personnel (TCBM) have a weak correlation of 0.23; Financial autonomy (TCTC) with autonomy of apparatus and personnel has a weak correlation of 0.24. Thus, hypothesis 1 is rejected. We continue to use structural equation modeling (SEM) for autonomous content with hypothesis 2 and hypothesis 3.

**Table 8. Detailed results of structural equation modeling (SEM) for autonomous contents of hospitals in Hanoi**

Fit statistic	Value	Description
-----+-----		
Likelihood ratio		
chi2_ms(30)	217,056	models vs. saturated
p > chi2	0.000	
chi2_bs(45)	2433,703	baseline vs. saturated
p > chi2	0.000	
-----		
Population error		
RMSEA	0.095	Root mean squared error of approximation
90% CI, lower bound	0.101	
upper bound	0.130	
pclose	0.000	Probability RMSEA <= 0.05
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Information criteria		
AIC	10078,972	Akaike's information criterion
BIC	10224,392	Bayesian information criterion
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Baseline comparison		
CFI	0.922	Comparative fit index
TLI	0.883	Tucker-Lewis index
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Size of residuals		
SRMR	0.058	Standardized root mean squared residual
CD	1,003	Coefficient of determination
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*Source: Results of survey data processing*

The results of Table 8 show that p-value = 0, RMSEA = 0.095 < 1, so the model is suitable. Hypothesis 2 and Hypothesis 3 are accepted. Structural equation modeling shows that the autonomy of professional tasks and financial autonomy has an influence on the autonomy of organizational apparatus and personnel.

Professional activities of public hospitals must comply with the general provisions of the Law on Medical Examination and Treatment; regulations on hospital ratings and regulations on professional and technical classification. Accordingly, Hanoi Department of Health ranked and classified 41 hospitals, including: 8 type 1 hospitals, 18 type 2 hospitals and 15 type 3 hospitals.

The Department of Health also approved the List of professional and technical expertise for each hospital and the usual and voluntary medical examination and treatment are carried out according to the List. Thus, hospitals are only allowed to perform services on the List of services licensed by the Department of Health, not to extend services without the permission of the Department of Health. This fact holds true for both type 2 autonomous hospitals and type 3 and type 4 hospitals. In other words, although the financial independence of hospitals has increased but hospitals still depend on superior state management agencies to carry out their professional tasks.

The public hospitals in Hanoi have a very narrow “space” to make decisions about their organizational structure and personnel. Hospitals develop projects on job positions, develop plans on the use of staff payrolls, and the number of contract workers to submit to superior management agencies for approval. Hospitals only participate in a very small part of the recruitment process, which is to suggest the number and position of jobs to be filled. The remaining stages of the recruitment process such as receiving applications, assessing candidates, organizing entrance exams and approving results are all performed by superior management agencies. Currently, Hanoi has expanded the “space” for decision-making on organizational structure and personnel for autonomous hospitals of type 1 and type 2. Type 1 and type 2 hospitals are empowered to decide on personnel in when type 3 and type 4 hospitals still depend on state management agencies in this regard.

## 6. CONCLUSION

The study used correlation analysis to test the relationship between the three autonomy issues at 41 public hospitals in Hanoi. Research results show that hospitals are still heavily dependent on higher-level management although their level of financial independence increases. The reason is due to the limited capacity of facilities and personnel of many hospitals and the binding regulations on professional expertise and personnel of the governing bodies. Binding regulations by upper management both ensure hospitals perform their social functions and exercise their control over hospitals.

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# TAX BASE AND PREVENTING TAX BASE EROSION IN VIETNAM

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**Abstract:** *Tax base, tax base erosion and tax base erosion prevention are topics that have received a lot of attention recently in Vietnam. The article focuses on analyzing some theoretical aspects of the tax base, manifestations and causes leading to tax base erosion. The article also makes some recommendations for Vietnam to prevent tax base erosion by the expansion of the tax base of current taxes and the improvement of tax administration efficiency in preventing tax base erosion and profit shifting in Vietnam in the near future.*

**Key words:** *tax base, tax base erosion, tax base expansion, tax base erosion expansion*

## 1. LITERATURE REVIEW

Fuest and Riedel (2009) prepared a report for the UK Department for International Development analyzed the existing literature on the tax disparities that developing countries suffer as a result of tax avoidance and tax evasion. The report concludes that the available knowledge about tax loss in developing countries due to tax evasion and avoidance is very limited.

James R. Hines Jr. (2014) analyzes the importance of the Action Program against Tax Base Erosion and Profit Transfer proposed by the OECD. The article analyzes the mechanism by which multinational companies avoid taxes through the tricks of transferring profits between member companies in different countries. The author proposes a number of recommendations to harmonize the relationship between tax competition and the implementation of the OECD's recommendations on preventing tax base erosion and profit shifting.

Nguyen Quang Tien (2017) analyzed the actual requirements that require comprehensive measures to prevent tax base erosion and profit transfer on the basis of multilateral cooperation; introduce the Joint Cooperation Forum and requirements for developing countries to join BEPS; evaluate Vietnam's initial efforts in combating tax base erosion and profit shifting; outline some of the main activities Vietnam will carry out in accordance with its commitments with the OECD and G20, focusing on the main issues: legal documents on tax administration for e-commerce business; consider and review tax agreements; amending and supplementing regulations on transfer pricing control; review corporate income tax incentives.

Le Xuan Truong (2017) has pointed out the basic theoretical issues of tax base expansion such as: concept, role and determining factors of tax base; impact of tax base expansion and policy choice. The article proposes a number of directions in expanding the tax base in the context of Vietnam.

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## 2. OVERVIEW OF TAX BASE

Tax base is a content which is always considered when formulating, promulgating or amending, supplementing and perfecting a tax law in particular or the tax system in general of countries. Because this is an important content that shows the regulatory scope, regulatory objects and tax bases of specific taxes as well as the extent of coverage and regulation of the taxing capabilities of the tax system in general in economy. The tax base can be understood from the following angles:

*Firstly*, tax bases in the most general sense are economic bases that the State can regulate by taxes. In other words, the tax base is also understood as the economic possibilities in society that the State can tax. In fact, at present, the economic possibilities that the State can tax have been shown including the possibility of income, the ability to spend and the possibility of the value of property owned.

According to income capacity which is the amount of income that a subject receives in a certain period of time, taxes on income have been formed such as corporate income tax, personal income tax. In terms of the level of consumption which is the portion of income that is used for current consumption, there are consumption taxes such as sales tax, value added tax, excise duty, customs duty,... According to the ability to pay, the value of the property has also formed the property taxes regulated on the types of taxable properties.

However, the tax base understood in this way is often referred to when considering, developing or evaluating the tax system in general of a country, and when developing specific taxes, determining the tax base is often considered in a narrower perspective than the taxing possibilities mentioned above.

*Secondly*, when understood from a narrower perspective, the tax base shows to whom the tax is regulated, or what the tax is levied on. Specifically, the income tax will regulate on what income; consumption tax in general or each tax type of consumption tax in particular, such as value added tax, excise duty or environmental protection tax will regulate on which types of goods and services; property tax will regulate on which types of property. At this time, the tax base represents specific physical objects subject to the regulation of taxes (taxable objects) instead of the general taxable possibilities mentioned above.

Therefore, according to this perspective, the tax base is the taxable subject of the tax, or the subject used to calculate tax amount. The expansion of taxable objects, narrowing of non-taxable cases and narrowing of tax-exempt cases will widen the tax base and vice versa.

*Thirdly*, understood from a narrower perspective, the tax base is a certain characteristic of the taxable object (taxable income; taxable goods and services; taxable property) that is used to determine the amount of tax payable. Tax base is the basis or base for determining the amount of tax payable and this tax base is shown in the section on regulations directly related to the identified taxable object.

In income taxes, the tax base understood from this perspective is the taxable income which is usually determined by taxable income minus tax exemptions and deductions as prescribed. An expansion or narrowing of the exempt income, the deductions will narrow or widen the tax base of these income taxes.

In consumption taxes, taxable objects are defined goods and services. However, goods and services have many different characteristics (such as quantity, price, uses, materials...), but only those characteristics of taxable goods and services which are prescribed as basis of tax calculation shall be the tax base of that tax. Normally, the basis of tax calculation of consumption tax is the base price and tax rate. In which, the base price which is directly attached to the taxable object will

be the tax base (the tax rate shows the level of regulation of that tax on a tax base, tax rate is not a tax base). For consumption taxes that are taxed at the specific tax rate, the basis of tax calculation is usually the quantity of taxable goods and the specific tax rate per unit of goods. Hence, the quantity of taxable goods which is the base directly attached to the taxable subject will be the tax base, while the specific tax rate is the same as the tax rate which is not the tax base.

Similarly, for property taxes, when the taxable property has been determined, the tax base understood from this perspective is reflected in the determination of the taxable property value. So, the tax base can be the full value of the property or the net value of the property which can be determined through market transactions or the price fixed by the competent authorities...

Thus, from this perspective, the tax base is often considered as the base for calculating and determining the payable tax amount of a particular tax.

### 3. TAX BASE EROSION

The term erosion which is widely used in the science of geology is the totality of exogenous geo-geological activities that remove part or all of the soil and rock on the surface, leading to the lowering of the terrain<sup>1</sup>. Using that meaning of the term erosion, tax base erosion can be understood as activities that reduce the tax base of a tax or taxes in a country's tax system.

Tax base erosion is understood in the most general sense that the current tax base of a national tax system does not guarantee full coverage of all economic bases and the current tax payment possibilities in the country's economy. If we consider the economic bases, the tax payment possibilities in the economy as inherent terrain, the failure to cover or reduce this terrain is the erosion of the tax base. The tax system that fully covers the taxing possibilities and tax bases in the economy, the tax system has an uneroded tax base and vice versa.

If considering at each specific tax, if the taxable object of that tax is adequate and consistent with the actual situation of the economy, then that tax has an uneroded tax base and vice versa. Cases with taxable objects that are not included in tax calculation because of tax exemption and reduction are specific manifestations of the erosion of the tax base of these taxes.

If considering in each specific tax, if the tax bases of that tax are fully and accurately included in the calculation of tax obligations, the tax base is guaranteed. Otherwise, if the tax base is not fully included in the tax calculation, the tax base of that tax has been eroded.

Through that understanding, it can be seen that tax base erosion comes from the following main reasons:

*Firstly, the provisions of the tax system have not covered all economic bases and taxable possibilities in the economy.*

As mentioned above, the taxable capacity is income, consumption and property, however, in reality, not all income, all goods and services consumed, all assets are subject to tax. The determination of which incomes, which goods and services, and which types of property are subject to tax and which are not subject to tax depends on many different factors such as socio-economic conditions, ability to management, regulation as well as views in the use of tax policies of the State in each country. Tax policy having a tax base with insufficient coverage of the above tax payment possibilities will cause the erosion of the tax base. It can be seen that this often exists

<sup>1</sup> <https://vtudien.com/viet-viet/dictionary>

because the movement and constant changes of the economy give rise to new business activities and new incomes in various forms, especially in terms of integration, while the tax policy depends on the subjective will of the State and is relatively stable. The fact that countries considering, supplementing and expanding the main tax base is a solution to limit the erosion of the tax base.

*Secondly, tax administration activities are not really effective, and there are still the phenomenon of omission and loss of revenue sources.*

The erosion of the tax base more or less depends on the capacity and efficiency of tax administration of the tax authorities. If the tax agency's management activities are well implemented and strictly manage taxpayers and tax bases, the tax audit efficiency is enhanced, all non-compliance behaviors of the taxpayers are detected in a timely manner and strictly handled, taxpayers cannot violate or will voluntarily implement tax laws, then the tax base is strictly and fully controlled, limiting the situation of erosion. On the contrary, if the tax authority is not effective in management, the possibility of missing revenue sources and losing revenue to the tax base will occur, causing the phenomenon of tax base erosion.

*Thirdly, the taxpayer's sense of compliance is not high, and there are actions to minimize tax obligations on the basis of lowering the tax base of business activities.*

In a market economy, the entrepreneur's goal is to maximize profits. Therefore, they are always looking for ways to reduce costs in their business activities. Tax liability is considered an expense incurred during the investment process, so taxpayers often think and act so as not to pay taxes or pay a low rate compared to actual obligations under the provisions of tax law. That process will make the tax base when determining their tax liability according to the declaration lower than the actual tax base, at the same time the tax administration has not been really effective, the tax base has been significantly eroded.

In addition, for taxpayers who are foreign-invested enterprises, multinational companies, and large corporations, they often seek to minimize the amount of tax payable through transfer pricing in related transactions. This is a content that is being concerned by countries today, causing the phenomenon of tax base erosion and profit shifting (BEPS). BEPS is a tax planning strategy used by multinational companies to shift profits from areas of high tax liability to areas of lower tax liability in order to reduce tax liability and increase corporate profits on a global scale<sup>1</sup>. These plans are becoming increasingly popular and are established through transfer pricing, e-commerce, thin capital, tax agreements, permanent establishments or tax havens. This has a significant impact on the business environment and erodes the tax base, reduces the transparency of the tax system, leads to unequal tax competition between countries and increases the risk of legal compliance of taxpayers.

#### **4. ACTUAL SITUATION OF TAX BASE EROSION IN VIETNAM**

Although the extent of tax base erosion in Vietnam has not been assessed as a whole, the presence of activities that cause tax base erosion in Vietnam has been demonstrated.

Firstly, the activities that cause tax base erosion in Vietnam are increasingly diverse with increasing complexity. The typical activities are transfer pricing and abuse of double taxation agreements.

Secondly, theory and practice have proven that foreign-invested enterprises will have more

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<sup>1</sup> According to Wikipedia

conditions to perform activities that cause tax base erosion than domestic enterprises. The reality of foreign-invested enterprises in Vietnam is increasing both in number and scale. However, according to the report of the Ministry of Finance, although the production scale and asset value of this group of enterprises increase year by year, the rate of profitable of these enterprises is only 45% of the total number of enterprises. There is a large number of enterprises having losses for many years. This proves the tax base erosion practices carried out by foreign-invested enterprises in Vietnam.

Thirdly, the Vietnamese tax authorities have discovered and handled many cases where enterprises have committed acts that cause tax base erosion such as acts of increasing the value of contributed capital, transferring prices through interest expenses or transfer pricing through intellectual property costs.

## **5. SOME RECOMMENDATIONS FOR VIETNAM**

*Firstly, expanding the tax base for taxes in the Vietnamese tax system in line with socio-economic conditions and the State's management capacity.*

*For the income taxes:* the tax base of these taxes is reflected in the income subject to tax. In which, corporate income tax is almost regulated on all possible incomes of an enterprise in the tax period, including income from production and business activities and other incomes. Personal income tax is regulated on the incomes of individuals, groups of individuals and households that the State can manage, regulate and tax. Non-taxable income along with tax-exempt income, tax incentives will narrow the tax base of these taxes. Therefore, in order to expand the tax base of income tax, it is necessary to consider the following angles:

- Fulfilling and making clear regulations on taxable activities and taxable income in the new conditions. Along with the reform and development process, many new economic activities have arisen and been accepted in daily life, making increasingly important contributions to socio-economic development, especially activities of providing services based on high technology through the telecommunications system which is not limited by regulations on border and territory and difficult to control. Meanwhile, the current tax regulations do not mention or have sufficient regulations to regulate these activities and thus will lead to losses in revenue management, tax base erosion and create inequality among business entities.

- Reviewing and re-evaluating cases of corporate income tax incentives to retain only those that really have an impact on production and business activities in localities and in important fields. It is necessary to limit cases where tax incentives are too broad, ineffective, easily exploited or too many social policies are integrated; Considering limiting the application of incentives in terms of tax exemption and reduction, and at the same time applying new forms of tax incentives that have been applied by many other countries such as investment discounts, investment tax deductions, combined with regulations on loss transfer...

- Considering narrowing some incomes eligible for personal income tax exemption. For example, income from real estate transfer of an individual who has only one house, land use right in Vietnam should not be exempt from tax because at present it is very difficult to control home ownership in practice. Is the seller's residential land unique or not? Similarly, income from savings deposit interest should also be included in the tax calculation as income from capital investment like interest when lending to economic organizations and individuals, because at present, credit institutions is also an economic organization, operating for profit, so depositing money in banks

for interest is the same as lending money to economic organizations...

*For the consumption taxes:* the tax base is reflected in the taxable goods and services and the way to determine the tax base. In particular, value-added tax is regulated on most goods and services used for production, business and domestic consumption. Non-taxable goods and services are often those that are difficult to manage, difficult to determine the added value, essential directly serving socio-economic life, serving activities that need to be encouraged or given incentives, ... together with non-taxable goods and services according to common practice. An increase or decrease in non-taxable goods and services will widen or narrow the tax base of value added tax. Therefore, in order to expand the tax base of the current value-added tax, it is necessary to shift the following groups of goods and services from non-taxable to taxable:

- Fertilizers, specialized machinery and equipment for agricultural production; offshore fishing vessels; fodder, poultry and other pet food; livestock breeds, plant varieties, including breeding eggs, breeding animals, seedlings, seeds, semen, embryos and genetic material. This adjustment will help the domestic industry of the above products to solve difficulties when input value-added tax is credited, ensure equality and increase competitiveness for imported goods. At the same time, for products such as animal feed, poultry and other pet food that are multi-purpose products (can be used for other purposes, can even be used as food for humans), the switch to taxable will limit the abuse and fraud when taxpayers intentionally declare the wrong use purpose so not to be subject to tax. Goods such as machinery, equipment, spare parts and supplies which cannot be produced domestically and need to be imported for direct use in scientific research and technological development should also be similarly adjusted.

- Some activities of public nature such as maintenance services for zoos, flower gardens, parks, street trees, public lighting; Public transport of passengers by bus, tram; Irrigation and drainage for agricultural production, if provided by organizations and individuals in the private sector for business purposes, should be included in the taxable area of value added tax. This will be appropriate in the condition that the provision of public goods and services will have strong participation of the private sector for business purposes.

The transfer of these groups to taxable objects not only contributes to the expansion of the tax base and generates revenue for the state budget, but also ensures fairness between production and business activities; at the same time, it helps to better protect domestic production, therefore these goods are also subject to value-added tax at the import stage.

For excise duty, environmental protection tax which are consumption taxes with special regulatory nature, only regulating on goods and services of special nature in the prescribed list. The larger the list of taxable goods and services, the wider the tax base and vice versa. The expansion of the tax base of these taxes focuses on the following contents:

- Adding the following goods and services to the list of taxable objects:

- + Sugary drinks: this is a beverage that is loved by many people, but their use is associated with increased energy intake leading to weight gain and obesity and many other bad effects on health including cardiovascular and diabetes. Currently, in the world, there are more than 40 countries collecting excise duty on this drink, of which 6 ASEAN countries have collected tax and considered collecting excise tax on soft drinks<sup>1</sup>. Therefore, the addition of sugary soft drinks to the

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<sup>1</sup> Draft report of the Ministry of Finance attaching Official Letter No. 10958/BTC-CST dated August 17,

excise duty taxable category is suitable for Vietnam's current and future conditions as well as the common practice of other countries.

+ Perfume, high-class cosmetics and beauty services: In recent years, the material and spiritual life of the people has been significantly improved, so a part of the population has a good average income or more and more use of perfumery products, cosmetics and beauty services. The regulation of income of this population is consistent with the principle of excise duty, both creating revenue for the state budget and contributing to ensuring social justice.

+ High-end electronic products such as stereos, cameras, mobile phones,... are not essential needs, so it is necessary to regulate part of the income of buyers of these high-end electronic products through excise duty. It is a reasonable solution to expand the tax base to increase tax collection from people who can afford this tax.

- Expanding the basis and method for calculating excise duty: the current excise duty is determined on the basis of the taxable prices of taxable goods and services. If further expanded by calculating tax according to the quantity of goods consumed (in addition to the taxable price), the tax base of this tax is also expanded. Specifically, cigarette products subject to excise duty, if tax is only calculated based on the selling price, then low-priced cigarettes will be subject to low tax and vice versa. While, cheap tobacco products often have a simple processing and production level, do not follow certain standards, are of poor quality, and have a more serious impact on the health and environment than other premium tobacco products. At this time, taxation under the mixed method will be more appropriate. Each consumable tobacco product will be subject to a certain specific rate of excise duty, after which, depending on the selling price of that product, excise duty continues to be charged on their selling price. This is a method that has been applied by some countries, contributing to expanding the excise duty base and enhancing the role of this tax in the management and regulation of production and trading activities harmful to health.

- Research on adding a number of goods to the taxable object list for environmental protection tax such as chemical fertilizers, detergents, growth stimulants, coal gas, natural gas, batteries, accumulators... These products currently being used a lot and also difficult to manage. If the process is not used correctly, it will cause genetic mutations, deformities, cancer to humans, and pollute water, soil and air. Although, each type has different physicochemical properties, different toxicity mechanisms, but more or less harmful to the environment. Because these are clearly that the process of production, circulation, storage, consumption or disposal of these products have adverse effects on human health and on the ecological environment. Levying environmental protection tax on these products will impact on the users of these goods, they can consider limiting their use and thereby encouraging the state budget revenue to use for the purpose of environmental protection.

*For property taxes:* usually taxable assets are assets of great value, which can be managed by the State and can be regulated by property taxes. The addition or reduction of taxable assets also widens or narrows the tax base of these property taxes. In Vietnam today, under the property tax, there are only two taxes regulating the same type of property, that is, agricultural land use tax and non-agricultural land use tax. In the current conditions, the socio-economic development has made important steps, the potential properties in the population have increased significantly, the property

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2017 Proposing the development of a Law amending and supplementing a number of articles of the Law on Value added tax, the Law on Excise duty, the Law on Corporate income tax , Law on Personal income tax and Law on Natural resources tax.

tax base as above is still quite narrow. Besides, with the expansion of incentives, exemption and reduction of agricultural land use tax as well as agricultural land use tax exemption for taxpayers with an annual tax amount of VND 50,000 or less... the tax base of this tax has been significantly reduced. In order to expand the tax base of property tax, in the near future, the type of property that is houses and structures on land should be subject to annual property tax. The inclusion of these assets under property tax will contribute to fulfilling the State's control and management requirements for the reserve for house, encouraging the rational, thrifty and effective use of the reserve for house. At the same time, contributing to social justice, narrowing the disparity in income, assets, and living standards of all classes of the population. In addition, in the long-term, it is necessary to consider and add other assets of great value such as aircraft, yachts, cars, motorbikes,... to the management and regulation by annual property tax to strengthen the state management of these assets as well as their owners and use. Therefore, it leads to timely regulation and impact in order to encourage owners to use assets rationally and efficiently and limiting harmful effects such as causing environmental pollution, traffic insecurity, lack of awareness of law observance...

*Secondly, improving the efficiency of tax administration, limit the omission of revenue sources and loss of revenue.*

- Improving regulations on tax administration to cover all revenue sources; Amending laws to reform administrative procedures; Reforming tax administration procedures in the direction of simplicity, clarity, publicity, convenience, uniformity, implementation of electronic tax management and tax management in a risky manner; Reviewing the rights and obligations of taxpayers, duties and powers of tax administration agencies to ensure equality, create a favorable environment for taxpayers to comply with tax laws and voluntarily pay tax correctly, fully, timely into the state budget.

- Improving the capacity and efficiency of tax administration activities to prevent and combat tax evasion, loss of revenue and tax debt; Strengthening the coordination between state agencies and related organizations and individuals with tax authorities in tax law implementation and tax administration.

- Perfecting the coordination mechanism between tax authorities and domestic as well as foreign organizations; Applying information technology in tax administration to e-commerce business, digital economy and sharing economy; Collecting full transaction information from internet sources; Identifying and managing domestic and foreign suppliers; Strictly managing the tax base...

*Thirdly, strictly managing enterprises with associated transactions, and promptly prevent the transfer of profits between affiliated enterprises.*

- Continuing to improve the legal regulations on tax administration for enterprises having associated transactions. In particular, it is necessary to have detailed regulations and specific and clearer instructions on methods of determining transfer pricing according to specific cases so that enterprises and tax authorities can fully apply them. , exactly during execution.

- Improve the organization of the tax administration apparatus for enterprises having related transactions. There should be a focus on this activity in focal units such as tax administration offices for foreign direct investment enterprises, large-scale companies, and frequently involved in related transactions to ensure tax management and inspection of transfer prices more professional and easier to assess.

- Building a more complete database system which serves tax management of businesses with



related transactions; Developing a mechanism to provide complete and comprehensive information from all relevant agencies and subjects; Building a database system on independent transaction prices for each industry or field that often generates related transactions in each specific period to serve the comparison of transaction prices; Clearing regulations and specific mechanisms for the purchase of necessary information for tax administration of enterprises having related transactions.

- Promoting the application of the advance pricing agreement (APA) mechanism in Vietnam; Agreeing on specific methods and contents with partner countries on the exchange of information related to multinational profit reporting of multinational corporations; Further negotiations on information related to the tax obligations of multinational companies; Negotiating and exchanging information related to business transactions between Vietnam and countries with close trade and investment relations; Exchanging and cooperating in training to improve professional expertise of tax officials in tax management of related transactions...

- Implementing well the contents of the BEPS program; Participating in the Global Forum on Transparency and Exchange of Information for Tax Purposes and moving towards joining the Multilateral Convention on Tax Administrative Assistance to implement an automatic information exchange mechanism in accordance with common reporting standards and mechanisms and exchanging of inter-country profit reports... which contribute to limit the erosion of tax base and shifting profits in Vietnam in the coming time./.

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# THE SUSTAINABLE DEVELOPMENT OF ECONOMIC REGIONS IN VIETNAM

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**Abstract:** *Currently, developing economic regions is one of the most important strategies of Vietnamese government. The implementation of this strategy has resulted in many achievements which have greatly contributed to the national economic growth. However, there are still several obstacles restraining the potential prosperity of economic regions in Vietnam, thus overcoming these obstacles should be critically considered. This paper will discuss achieved results of economic regions in Vietnam over past years, as well as current related obstacles, then propose several suggestions supporting the sustainable development of economic regions in Vietnam in the context of international integration.*

**Keywords:** *policy; sustainable development; economic regions.*

## 1. INTRODUCTION

Regarding to the development strategies related to Vietnamese society and economy for the 10 years period from 2011 to 2020, it is said that the Vietnamese economy has gradually stabilized and achieved positive development, which help to raise the trust of the society and the business community on the leadership of the Vietnamese government. However, the appearance of the Covid-19 pandemic and the complicated global political changes have seriously affected global economy, caused disruptions in the global supply chains, negatively impacted the economic development and the social sustainability as well as the accomplishment of Vietnamese government on planned targets. However, thanks to the joint effort of the whole government, the community as well as all business in 2020 and 2021, Vietnam has successfully avoided widely spreading coronavirus to people in the society, while maintained, recovered and developed socio-economic domains. Therefore, Vietnam has synchronously and effectively implemented the planned goals, tasks and solutions [1]. The economic regions have gained economic achievements by effectively exploiting the potential and comparative advantages of each region. Thus, economic regions have promoted their leading role and made great contributions to the national economic growth as well as exports and state budget revenue. However, there are still certain limitations and obstacles restraining the potential prosperity of economic regions in Vietnam. Specifically, the regional linkage is weak. The planning and management of planning in some locals is still inadequate and lack a long-term vision. The transport connection of the provinces in regions is still weak. The development gap between regions is still large. Economic development is slow, has not had a clear orientation, has not been harmoniously linked with social development and environmental

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protection [1]. Therefore, it is necessary to have a policy to develop economic regions in the direction of close linkage within regions, inter-region, to take advantage of infrastructure, science and technology and resources to develop economic regions in the context of global integration.

## **2. CURRENT CONTEXT OF THE DEVELOPMENT OF ECONOMIC REGIONS IN VIETNAM**

### **2.1. Several achievements**

Currently, the economic regions in Vietnam includes four regions, namely the northern economic region, the central economic region, the southern economic region and the Mekong Delta economic region. Each economic region has its own specific characteristics and different strengths. The development of these economic regions, especially the close linkage between these regions, will create favorable conditions for the common and synchronous development of the national economy. Over the years, the Vietnamese government has made many undertakings and policies to develop economic regions, ensuring better exploitation and optimal promotion of the advantages of each regions in terms of infrastructure, natural conditions with the goal of striving to turn Vietnam into a strong country in the region, associated with sustainable development. In the tasks and solutions for socio-economic development for the five-year period from 2021 to 2025 on the development of economic regions, the Vietnamese government has clearly pointed out “to better exploit the advantages of each region in terms of infrastructure, natural conditions, geo-political position, human resources, and enhance intra-regional linkages to participate in global value chains and create new development spaces” [2].

Each economic region has its own characteristics and strengths. In recent years, these economic regions have actively contributed to the overall economic development of the country. On average, from 2011 to 2019, all four economic regions contributed 72.95% to the average GDP growth rate of the national economy. For each 1% growth of the four economic regions, the GDP of the economy will increase by 0.61%. In which, the northern economic region and the southern economic region have the greatest contribution. From 2011 to 2019, the GRDP scale of these two economic regions accounted for more than 61% of national GDP, represented as the key regions of all economic regions [1].

According to the report on the socio-economic development of the northern economic region, between 2016 and 2019, this region has had a positive development, exceeding the planned targets in Decision No.198/QD-TTg of the Prime Minister approving the overall socio-economic development of the northern economic region up to 2020, with a vision to 2030. The average growth rate of GRDP in the three years from 2017 to 2019 reached 9.08%, the highest rate among all four economic regions (in which, the most prominent is Hai Phong with 14,57%). The GRDP per person reached 4,813 USD in 2018, 1.86 times higher compared to the whole country, and this figure was nearly 5,000 USD in 2019. The regional GRDP in 2018 accounted for 31.73% of the national GDP, rank second after the southern economic region. In which, Hanoi took the lead, contributing to 16.87% in the whole country. Economic structure changed positively, the proportion of agriculture, forestry and fishery sector decreased from 3.98% to 3.71%, exceeding the planned target in Decision 198/QD-TTg. Agricultural restructuring associated with rural development has been promoted, shifting towards increasing added value of products, applying high technology

to agricultural production. By the end of 2018, the whole region has 936/1,217 communes meet new rural standards, accounting for nearly 77%, while the national average is 46.48%. Industry-construction is the mainstay of growth in the region and is concentrated in all localities, attracting many important projects in a number of provinces and cities such as Hanoi, Hai Phong, and North Vietnam. Ninh, Bac Giang, etc.

The central economic region in recent years has achieved quite encouraging growth. The average growth rate of GRDP for the whole region from 2001 to 2019 has always maintained at a high growth rate (at 10.25%), in which, there was a significant decrease in growth rate in the period between 2011 and 2019 compared to the previous period (at 8.14%), however, this figure is still higher than the average growth rate of the whole country (at 6.2%). During 2011 and 2015, the this economic region's economic growth reached only 7.46% per year. The reason is due to the influence of the world economic crisis, the influence of European public debt and the cessation of production of Dung Quat oil refinery for maintenance in 2014. In general, most of the locals in the region all maintained a high growth rate in the whole period from 2001 to 2019. In which, Da Nang city has the highest growth rate in the region, at an average of 12.05%/year, followed by Quang Nam with an average growth rate of 11.58% per year.

In 2019, the total budget revenue of the entire central economic region reached over VND 90,125 billion, accounting for 6.33% of the total state budget revenue, of which domestic revenue is the main one. Budget expenditure of this economic regions is about VND 89,420 billion, mainly for recurrent expenditure, so the budget surplus of the whole region is more than VND 705 billion.

However, in terms of economic scale, this region is still small and accounts for a low proportion of the economy. The GRDP scale of the whole region accounts for only about 5% of the country's GDP and by 2019 it has only increased to 7.09%. That shows, the economic starting point of this region is not high, the region's economic contribution to the economy is not commensurate with the potential and advantages of an independent economic region.

The Mekong Delta economic region is the driving economic region of the Southwest region. This is one of the widest and the most fertile deltas in Southeast Asia and the world. In Vietnam, this is a food production and farming region, growing and catching aquatic products region as well as large area of fruit trees. There are many favorable conditions in the production of rice and aquatic products for consumption and export.

The southern economic region is the driving force of the Southeast region, including Ho Chi Minh City, Dong Nai, Binh Duong, Binh Thuan, Ba Ria-Vung Tau, Binh Phuoc, Tay Ninh, and Long An and Tien Giang. This economic region has many large industrial parks and attracts many foreign investment projects. The important economic sectors of the region are petroleum, textiles, footwear, leather, mechanics, electronics, chemicals, fertilizers, steel rolling. Many large industrial parks are concentrated in Bien Hoa, Dong Nai, Long An, etc. This region also provides 30% of the total electricity capacity of the whole country by Phu My Power Center, Ba Ria power plants, etc.

On the basis of implementing policies to develop the economic regions in the past years, there have initially been encouraging results. However, there are still certain limitations below.

## 2.2. Limitations

Firstly, the legislation system for economic development of these regions is not synchronized and has not created the strength to regulate economic development activities of economic regions. In particular, the awareness of officials and people about developing an effective and sustainable regional economy is not high, the concept of a green economic model is hardly understood and applied uniformly in Vietnam in past years. The government does not have a master planning policy to use economic regions from the point of view of integrated management. That leads to underutilized resources, affecting production and export.

Secondly, the general awareness on sustainable economic development of economic regions is incomplete. Awareness of the role and position of economic region at all levels, sectors, localities and people is not really enough. The investment in building economic regions and creating linkages between economic regions is still rampant. Local exploitation does not really guarantee for national development, so the exploitation is not really associated with conservation and common development. The economic scale of some regions is still small, not commensurate with the potential, the structure of industries in the economic fields of each region.

Thirdly, the ability to link between economic regions and between government agencies is still inadequate. Lack of attractive incentive mechanisms and policies to attract all economic sectors to invest in all fields, especially in terms of investment in industrial fields with high risks related to weather, natural disasters, and safety, investment in infrastructure construction that usually has a large investment rate, but slow return of capital. The economic regions have not yet brought into full play its potential, that is, human resources and scientific and technological staffs have not met the requirements in terms of quantity and quality. Moreover, there are many limitations in terms of scientific and technological capacity.

Fourthly, the economic regions have not yet brought into full play their potential and available advantages to take advantage of development opportunities. Also, these regions are facing many challenges such as the slowing down of economic growth. The proportion of the region's manufacturing-construction and service industries in the country's industry structure tends to increase slowly. Budget revenue is not sustainable, many locals still depend on certain industries.

Fifthly, the infrastructure in these regions is still backward and fragmented, so the efficiency is low and there is no sustainability. So many works are unfinished, some locals have built some projects but cannot be exploited and used because of unreasonable calculations, causing waste and inefficiency.

Currently, Vietnamese environment has been polluted and changed in a bad way, with a lot of untreated waste being released into the environment. In addition, Vietnam is also being heavily affected by the Covid-19 pandemic and climate change. Some economic regions are facing many difficulties and great challenges. A typical example is the central economic region. This region is considered as the growth nucleus and the driving force for socio-economic development in the Central region. However, due to the influence of the Covid-19 pandemic, the economic growth rate of this region in 2020 decreased deeply, at a negative level (-1.02%), in which, the two locals have the largest economic scale in the region, Quang Nam and Da Nang, respectively, account for 26.6% and 25.1% of the GDP of the whole region, which is heavily affected. The service and

tourism industry in this economic region normally contributes about 42% to the region's economic growth, however, due to the impact of the Covid-19 pandemic, the contribution in 2020 had a negative growth rate (-2.65%). Industry-construction is also significantly affected, in 2020, the related growth rate is also negative (-0.47%).

### **3. SEVERAL SUGGESTIONS SUPPORTING THE SUSTAINABLE DEVELOPMENT OF ECONOMIC REGIONS IN VIETNAM**

Firstly, enhancing the legislation system related to economic regions. Policies for sustainable development must ensure consistency among sectors from industry, construction, agriculture, tourism, people's livelihood horizontally and between levels of government and related agencies vertically. Therefore, it is necessary to harmonize the legislation system related to economic regions.

Secondly, the planning of economic regions must have a long-term and scientific vision. Also, this must be associated with exploitation and connected with territories, between the mainland and the entire coastal strip throughout the country, thus completing the system of modern road, railway, waterway and air transport infrastructure is needed. Planning for the development of economic regions is a scientific work, requiring an integrated survey of reality from infrastructure, production lines, environment between regions, locals in the direction of socio-economic development, defense environment and security in long-term sustainable development strategy.

Thirdly, improving institutions for association and cooperation between economic regions to promote synergy, from production to product consumption. Focusing on promoting the image and attracting domestic and foreign investment in order to effectively exploit the region's economy. Linking and cooperation between economic regions should focus on exploiting the specific advantages of each region. Promoting the exchange of goods and cultural exchanges between regions in the country and with other countries, thereby having conditions to learn from experiences for sustainable development. Accordingly, the northern economic region needs to focus on building high-quality human resource training centers, developing high-tech industries, high-tech services, banking and finance, specialized medical care, supporting industries, etc. The central economic region should focus on developing and improving the quality of marine tourism, eco-tourism, automobile production and assembly, petrochemical industry, defense industry, seaport services, etc. The southern economic region should focus on manufacturing and assembling electronics, manufacturing and processing industry, digital economy, banking and finance, real estate, etc. The Mekong Delta economic region should focus on modern and large-scale agricultural production, organic agriculture, highly efficient agriculture, optimization of agricultural value, development of seed technology, processing and preservation of agricultural and aquatic products [4].

Fourthly, building modern infrastructure is a condition for large-scale exploitation of resources of regions. There should be an available infrastructure system connecting road, railway, waterway and air in the region and the whole country. Along with the transport system, attention must be paid to building people's houses to prevent floods and storms and protect the environment.

Fifthly, forming an information system, especially information for forecasting weather and environmental risks to prevent natural disasters in a timely and effective manner. In particular, in recent years, Vietnam has been heavily affected by rain, storms, floods, epidemics, etc. Therefore, there must be investment in a timely weather forecasting information system for all people and

organizations. economic organization to prevent natural disasters, storms and floods in order to minimize damage.

Sixthly, focusing on improving the policy of developing high-quality human resources in all economic sectors of the economic regions. Many professions and business fields require high-quality human resources, but there are not enough qualified people. Therefore, in the long run, we must train to have human resources to master the economic exploitation of the region, linking the economy with national defense and security to maintain territorial sovereignty and national security.

Seventhly, improving the investment environment in order to mobilize resources for growth. First of all, it is necessary to continue to improve the institutions, mechanisms and policies related to the business and investment environment in the direction of creating attractiveness, openness and transparency, consistency and stability. Based on socio-economic characteristics and advantages of each region to have appropriate policies in prioritizing investment and developing industries with high technology content of each different region. Enhancing investment promotion tools such as financial tools for tax exemption and reduction, selection of fixed asset depreciation method, ground support in production and business, credit support, etc to promote the attraction and effective use of foreign investment capital. Encouraging investors and projects to use advanced, modern and environmentally friendly technologies. Remove the mindset of attracting foreign investment at all costs, but higher standards are required to ensure attracting the best projects and investors. In particular, it is necessary to promote administrative reform to create a favorable business environment for domestic and foreign investors.

Eighthly, to strengthen international cooperation regarding economics, science and technology because the regional economy is specific, it is necessary to have a lot of experience in management to improve the economic efficiency of each economic region, contributing to the rapid and sustainable growth of the national economy.

#### **4. CONCLUSION**

In recent years, the policy of sustainable development of economic regions has basically focused on implementing the policy set by Vietnamese government. The implementation process has achieved certain results. However, there are still some shortcomings that need to be overcome. The solutions proposed in this paper with the desire to improve the sustainable development of Vietnamese economic regions in the context of international integration.

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# **APPLYING RESEARCH TO PRACTICE: THE FRENCH AND JAPANESE EXPERIENCE AND LESSONS FOR VIETNAM**

**Assoc. Prof. Dr. Nguyen Ngoc Toan<sup>1</sup>**

**Abstract:** *This paper examines the experience of France and Japan to promote research and apply them to practice and works out lessons for Vietnam. It reviews the various measures and incentives of the countries to support research, especially by public universities and research institutions, and to promote cooperation between the institutions and businesses. Six lessons drawn from the analysis of the French and Japanese experiences would be helpful to Vietnam in its attempt to develop the research and application system.*

**Keywords:** *Research application, French experience, Japan experience, Vietnam*

## **1. THE FRENCH AND JAPANESE EXPERIENCE IN APPLYING RESEARCH TO PRACTICE**

### **1.1. France experience**

France is one of the European leaders in science and technology as well as in economic power. For a relatively long period, the French government had played an important role in science and technology development. The top-down strategy in science and technology had long been employed and thus, government funds and support had been provided to various research institutions.

However, this has changed in recent decades as the traditional approach has shown declining performance. The bottom-up approach and competitiveness cluster-development approach have received growing attention. The linkages between public research institutions and private sectors in doing research and development, application, and fostering start-ups have been the foundation of applying research to practice policy in France.

To promote research and application, the French government has employed various supporting policies. Annually, the country spends around 2,1 to 3 percent of its GDP on investment in research and technology applications. Since the end of the 1990s, the French government has implemented several innovations in research and application policies. These changes come from internal debates that France has not made the best use of its research and research findings; that the country has been slow in technology transfer and dissemination and applications to practice, especially in public universities and research institutions. France must change to promote research and application, particularly in public universities and research institutions.

The French Law on research and innovation was issued on 1999 to modernize and restructure

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the research and development system in France. It aimed at enhancing the effectiveness of technology transfers between public research institutes and private enterprises and promoting the formation of innovative start-ups. The French government encouraged the dissemination, exploitation, and application of research findings to practice. The law allowed researchers at public research institutions involved in private sector activities, such as forming or joining management boards of private start-ups and enterprises without losing tenure in public research institutions. It promoted cooperation in research between the State and private sector. For example, public universities and research institutions could establish incubators with private sector participation. They could also conduct trade and production activities. The Law also stipulates financial support measures for start-ups and innovative enterprises, setting the legal framework for R&D enterprises and start-ups.

In 2003, the Ministry of Research and the Ministry of Industry has jointly worked out The 2003 Innovation Plan. The main content of the Plan was to disseminate and apply research to practice and promote innovations. The Plan focused on State-funded research and the application of their findings. The government focused its fund to support strategic research in industries and promote start-ups. Particularly, the French government would take the role of an angel investor, providing support to enterprises, which engaged in innovations and application of technologies. The support includes financial assistance, simplified procedures to access state funds, and assistance in applying research to practice. Especially, the government would support research in strategic advanced industries.

Despite the ambition of the policy, research performance and application to practice had been under expectation. Therefore, in 2005, the French government set out new research and application policy with 3 pillars:

- Balancing between basic and applied research.
- Building cooperation mechanism between stakeholders in research and application.
- Building a global long-term strategy to enhance research and development capacity.

The new policy aims at promoting cooperation between stakeholders in research and application, mainly between research institutions and enterprises, between the State and private sectors. We give more details on the government support below:

### **Financial support**

The French government has provided various support to research and application.

The first type of support is tax incentives. The French government uses tax incentives to enhance the competitiveness of enterprises through research and development. This policy covers every industry and size of enterprises. The key principle of the policy is tax reduction contingent on the amount and growth of enterprise spending on research and development. There are two levels of tax incentives. The first level is incremental tax incentives according to a different percentage of research expenditure. There is a tax reduction ceiling, however. If the reduction computed as a percentage is over the ceiling, the real first level tax reduction is applied using the ceiling, and the second level of tax incentive is employed to the amount going beyond the ceiling. The second level reduction rate is low than the first level. With these tax incentives, the more an enterprise spends on R&D, the more tax incentive it gets. Currently, the French tax incentive policy is comparable to the average level in OECD countries.

Besides, the French government provides different support for R&D on a different levels of enterprise development. As start-ups often spin off research institutions and universities, these institutions often serve as the first financial supporters. In later stages of development, these enterprises could get government adventure financial support, which has to be paid off in 12 years.

### ***Support via public purchase***

Public purchase is an important channel to promote research and application. However, this channel was overlooked previously in France. In 2004, total public purchases amounted to 15 billion euros. Two main public buyers are the Ministry of Defence and the Ministry of Economics. To support research and development, the Ministry of Defence considers the promotion of research and development and innovation as criteria for its purchase. The Ministry also encourages the participation of small and medium enterprises in public purchases, as long as they have innovative products and technologies.

### ***Linkages between stakeholders in research and application***

The State plays an important role in the research and application system in France. To promote the linkages between stakeholders, particularly to transfer research findings to enterprises, the French government has conducted several measures.

The key policy to promote linkages between the stakeholders is the cluster competitiveness enhancement program, which was issued in 2004 and applied since 2005. The program aims at upgrading the competitiveness of the French economy through linkages between research institutions, enterprises, and training institutions in a geographical region. Clusters can emerge naturally or are established on purpose by the government. While enterprises are the core of a cluster, the government provides incentives and support. A cluster must hold the following criteria:

- Cluster development strategy must comply with the local or regional development strategy.
- Cluster has a reputation in industrial production or technology.
- There is cooperation between various stakeholders in the cluster and the cluster has a mechanism to promote linkages among the stakeholders.
- Cluster can promote harmonization and innovation.

The main objective of a cluster is to promote cooperation between stakeholders in research and application for socio-economic development. Each cluster often has 3 stakeholders: enterprises, advanced training institutions, and research institutions, and 3 important factors: cooperation, research projects, and international reputation. The approach has shifted from top-down to bottom-up and generate an environment for competition between regions and provinces. Stakeholders in a cluster can receive tax incentives, direct government funds, and access to other funds.

Thank to this policy, several clusters have been established and many of them has been successful. These clusters have formed ecologies linking research and application and promote both of them to create new technologies and competitive products. However, some clusters have not been successful. Unsuccessful clusters are often those of small and medium enterprises, traditional industries or those have insufficient resources.

Another policy is to enhance the competitiveness of research institutions by creating a network of selected research institutions. The centre of the network includes research institutes located

close to each other in a region. The institutions would receive investment from the government and funds to attract leading scientists. The network would promote cooperation between research institutions, exploit the strengths of each institution, each scientist, and thus promote research and application in France. Similar to an industrial cluster, the cluster of advanced education and research is a mechanism to coordinate research and education activities in a geographical region to enhance efficiency, reputation, and attractiveness of advanced education and research in France. A part of this mechanism is the merging of universities and research institutions to expand their sizes and strengthen competitiveness to establish large, globally reputable, and competitive institutions, comparable to leading institutions in the US and Europe.

## **1.2. Japanese experience**

Japan experienced several decades of rapid economic growth after the Second World war. However, since the 1990s, the Japanese economy has fallen into a long stagnation. The main reason of this is the decline in productivity following the decrease of Japanese firm technological capacity. While spending on research and development remains high, R&D has not generated much value and led to little increase in competitiveness. Therefore, the Japanese government aims to promote research and application to maintain Japan's competitiveness in the globalization context.

### **Overview of the Law of science and technology in Japan**

The Law of science and technology in Japan was approved in 1995. According to this law, the Japanese government issues 5-year plans to develop and apply science and technologies. This law shows the strong commitment of the Japanese government to research and application to socio-economic development as the only way for a resource-poor and aging country can flourish under competition from other Asian rivals such as Korea and China.

Following the Law, Japanese universities receive financial support from the government to modernize research facilities and equipment, finance research projects, and to increase post-graduate candidates. Japan also transforms its support system by learning about the American experience. The support has targeted 4 key areas: health science, information technology and telecommunication, environment studies, and nanotechnology. The law also requires a regular review of the research and application system every 5 years.

Line ministries play important roles in fostering research in their fields. For example, in 2004, 64 percent of research fund was provided by the Ministry of Education, Culture, Sport, and Science; 17 percent by the Ministry of Economics, Trade and Industry, 5 percent by the Ministry of Defence, and 4 percent by the Ministry of Health, Labor and Welfare.

Based on this basic Law, the Japanese government has employed several policies to promote research and application.

### ***Promoting research and development in enterprises***

The Ministry of Economics, Trade, and Industry (METI) is the government agency in charge of promoting research and development in Japanese enterprises. It focuses its support on large-scale research projects, which involve many Japanese corporations. The support has been provided since 1976 to upgrade the technological capacity of the Japanese semiconductor industry, which lagged behind American firms at the time. METI also pays attention to other technological areas, such as advanced materials, mechanical manufacturing, energy, and environmental technology.

With the growing complexity of modern technologies, the selection of projects to support is increasingly complicated. Moreover, most of the large Japanese corporations can do their research so the role of government seems to be less significant. That is why government support has shifted to research and development in fields that cater to social needs such as healthcare.

Another model is creating enterprises within universities and research institutions to operationalize research findings to practice, such as the model of RIKEN. RIKEN was formed in 1917 in the early stage of industrialization in Japan. The institution is famous for its research performance and commercial product development. In the beginning, RIKEN depended on government finance. However, since 1939, RIKEN has become financially autonomous thanks to its revenue from patents and dividends from its subordinates. RIKEN has a business arm, which is RIKEN industrial corporation, working mainly in the field of technology transfer. Research done within RIKEN is applied inside RIKEN or its subordinates or transferred to other businesses.

### ***Tax incentives***

Tax incentives have been widely used in many countries to support research and development. While tax incentive is a governmental intervention, it is market-friendly since enterprises would select research and application projects, not the government. The tax incentive is based on the level of expenditure on research and development. It was particularly effective in Japan when the economy grew fast for several decades but when the economy slows down recently, enterprises may find it difficult to spend on research and development.

### ***Fostering the application of technology in small and medium enterprises***

In Japan, small and medium enterprises are considered a source of innovation and reform and job creation, not a vulnerable group that needs protection and support. To help small and medium enterprises to reform and apply new technologies, the Japanese government supports their in-house research, provides higher tax incentives, and provides credit guarantees to those with innovative activities.

### ***Upgrading public research institutions***

To enhance the performance of public research institutions, the Japanese government has transformed them into an autonomous model with an enterprise-like operation. Since 2001, most national research institutions have operated autonomously. The government gives them mid-term targets of 3-5 years and monitors and assesses their implementation annually. Budget provision is based on the assessment of institutional performance. The institutions have full autonomy in personnel and financial decisions and use the same accounting standards as a business. They can decide their salary and payment policy to attract excellent researchers.

Similarly, since 2004, all national universities have transformed into university companies and been given more autonomy. Instead of providing a full package of the fund, the universities have to compete with each other to get government financial support, based on their training and research performance. Thereby, universities have to improve their research and training quality to get more funds from the government and also have to seek alternative financial sources from the business sector. To foster linkages between research and application, the law of technology transfer promotion between universities and enterprises was issued. Accordingly, centres of registration and patent have been established in universities and research institutions. Previously, research

in universities was often not registered, and by law, universities could not hold any patents or copyright. With this change, the number of research and patents registered and revenue from them has increased significantly. The universities have more revenue from research and thus they have strong motivation to do research and register their patents. Even research funded by the government are allowed to be registered as patents of public universities and research institutions. This stimulates the commercialization of research findings and encourages universities and research institutions to look for research that is highly applicable so that they can get more money from patents and copyright.

Besides, centres for cooperation between universities and businesses have also been formed in Japan since 1987. These centres allow universities and businesses to conduct joint research and are communication channels between them.

Additionally, the number of spin-off enterprises from universities has also risen remarkably. Among them, many are in the field of biotechnology and information technology. However, these are often still small and medium enterprises.

#### ***Promoting start-ups***

Japan used to have a higher ratio of start-ups in the 1970-1980s. However, the ratio has declined since the 1990s following economic stagnation. Therefore, since 2001, the Japanese government has built various supporting policies to promote enterprise formation and start-ups. The Japanese government established a national forum for start-ups and adventure investment. Besides, The Japanese chamber of commerce and industries has held several training courses for start-ups. As new enterprises are often short of capital, Japan has had a credit program for new and start-up enterprises since 2001. In this program, new and start-up enterprises can get credit without a mortgage.

### **3. LESSONS FROM FRENCH AND JAPANESE EXPERIENCE AND IMPLICATIONS FOR VIETNAM.**

The French and Japanese experience provides several lessons that Vietnam can learn in the process of building policies for promoting research and application.

First, the State plays an important role in promoting research and application. In both France and Japan, the governments have been active in building legal frameworks for encouraging research and application, applying research to practice, and linking between stakeholders: scientists, research institutions, and enterprises. The governments have employed supporting measures in the form of funding, and tax incentives,.. to encourage forming new businesses and start-ups and to quickly apply research to practice.

Second, reforming the legal framework and restructuring the research and transfer system. Both countries have started by reforming legal frameworks to promote research and the application of research findings. The legal frameworks are changed to allow research institutions to work as businesses with greater autonomy. Researchers can simultaneously work in public research institutions and in the private sector. Institutions for cooperation between enterprises, universities, and research bodies are set up to promote business formation and start-ups.. The new legal framework permits easier and more flexible cooperation in research, technology transfer, and scientist mobility.

Third, promoting the linkages between research institutions and enterprises is the key to applying research to practice. To shorten the time from research to practice, both France and Japan have attempted to bring businesses and research institutions together through different policies.

In France, the government follows a cluster strategy that links enterprises, research institutions, and universities in the same geographical region. Those in a cluster would receive tax incentives, research funding, and access to other government support. In Japan, the government follows a more traditional approach, including technology transfer, forming joint research, and joint businesses between research institutions and businesses.

Fourth, public finance is employed to support and encourage research and application. The forms of public finance support include tax incentives, public purchase, and research funding.

Fifth, promoting new businesses and start-ups. In France, the government can serve as an angel investor to start-ups. In Japan, the government reduces entrance barriers and provides support and credit to new businesses. It also encourages spin-off enterprises from universities and research institutions.

Sixth, increase the autonomy of universities and research institutions and allow them to operate as a business. This requires universities and research institutions to manage to commercialize research to have higher revenue. Thus, research must be applied as soon as possible and therefore shortens the time from research to practice. Higher revenue would also allow them to attract more researchers and better researchers. The autonomy would also encourage universities and research institutions to form their businesses to operationalize and commercialize their research.

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# EFFORTS IN APPLICATION INTERNATIONAL FINANCIAL REPORTING STANDARDS (IFRS) IN VIETNAM: IFRS TRAINING IN UNIVERSITIES

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**Abstract:** *In the trend of international accounting integration, many countries are implementing the application of International Financial Reporting Standards (IFRS) in different ways and at different levels. The application of accounting standards according to IFRS will help Vietnamese businesses improve the transparency and efficiency of financial information, as well as harmonize with international practice. Therefore, the need to train IFRS in universities and accounting training institutions in the near future becomes more urgent than ever and becomes one of the tasks that need to be given top attention in current years. In that process, Vietnamese universities and accounting training institutions will face many difficulties and challenges in order to be able to build and develop human resources for the training and overcome obstacles arising in accessing IFRS for students, as well as standardize learners' qualifications to adapt to new requirements. The study focuses on analyzing and evaluating the impacts of introducing content related to IFRS into teaching in universities. Thereby, the authors found a number of challenges for accounting training programs at universities and accounting training institutions in current years.*

**Keywords:** *IFRS training, universities, challenges*

## INTRODUCTION

The International Financial Reporting Standards (“IFRS”) is a set of accounting standards researched and developed by the International Accounting Standards Board (“IASB”) with the goal of providing an international framework on the preparation and disclosure of financial statements for profit-orientated organizations. IFRS creates a common accounting language for businesses around the world, enhancing the transparency and comparability of financial statements. Financial statements prepared in accordance with IFRS are widely accepted in many countries and thus facilitates better access to international capital markets.

The Ministry of Finance has just approved the roadmap and orientation for Vietnam in applying IFRS. Once the accounting legal framework changes, the capacity of accountants also needs to change to meet the job requirements in the new conditions. Therefore, the role of accounting training in the context of convergence under IFRS is very important to quickly build accounting workforce adaptable to innovation.

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## LITERATURE REVIEW

The adoption of IFRS offers an opportunity for accounting scholars to rethink curriculum design and the use of modern pedagogy. Hodgdon, Hughes and Street (2011) describes how accounting scholars in Australia deal with the application of IFRS in the accounting curriculum. From a pedagogical perspective, they view the Australian experience as a lost opportunity to improve the content of the accounting curriculum and pedagogy. They encourage accounting scholars to rethink accounting training and use new teaching methods that are more in line with principles-based approaches such as simulations, role plays, student presentations and problem-based case studies with multiple solutions (Jackling, de Lange & Natoli 2013).

Hodgdon, Hughes and Street (2011) and Wells (2011) suggest using a framework-based teaching approach where the IFRS conceptual framework represents the starting point and basis for defining and analyzing business transactions and economic events. In order to achieve a successful transition to IFRS instruction in the curriculum, a focus should be on the content of the courses, the methods of instruction, and the structure of the curriculum.

Barth (2008) and then Carmona and Trombetta (2010) emphasize the need to shift the focus of accounting education to developing students' skills in judgment and analysis by following a conceptual approach to teaching in which frameworks, principles and concepts of standards are central. Following the framework approach is considered to have a longer lasting effect on students' understanding and adaptation to changes in accounting regulations and standards that may occur than teaching conventional rules (Barth 2008).

Wells (2011) argues that reporting under IFRS requires future accounting graduates to develop, possess and use technical, professional and judgmental skills that are best achieved and developed when framework-based IFRS teaching. Wells (2011), states that the essence of learning IFRS is understanding the IFRS principles and its underlying concepts. This can be achieved, he added, through exploration and in-depth examination of the IFRS conceptual framework. Since the conceptual framework represents the reference for the development of IFRS, the link between the conceptual framework and IFRS teaching is important. Wells (2011) introduced framework-based teaching showing that the concepts outlined in the framework must be relevant to IFRS requirements in the teaching process at all levels. It has been suggested that framework-based teaching allows for a deeper, more comprehensive and robust understanding of IFRS requirements and underlying concepts (Wells 2011). It has also been suggested that framework-based instruction will help develop students' abilities in relation to the exercise of professional judgment necessary for the application of IFRS because the conceptual framework forms and provides and principles based on judgments (Hodgdon, Hughes & Street 2011; Wells 2011).

## RESEARCH METHODOLOGY

The authors conducted an empirical survey through questionnaires sent to 23 universities and accounting training institutions to assess the current status of the training program and the impacts of including IFRS content in the current accounting training program.



The research questions are divided into two groups. The first set of questions addresses research perspectives on factors that are likely to affect the capacity of higher education institutions, thereby supporting the implementation of recommendations for changes to the educational program. The second set of research questions explores the opinions of accounting scholars in Vietnam on how relevant professional bodies other than universities in Vietnam can help professional organizations and accounting scholars transition to IFRS.

## RESEARCH DISCUSSION

### The significance of teaching IFRS in the universities in Vietnam

Table 1 presents the opinions and answers of experts on the significance of introducing IFRS in higher education institutions in Vietnam, in which the response level will be from 1 to 5 where 1 is not important and 5 is very important. The obtained data have demonstrated that most experts believe that teaching IFRS in universities is necessary. More specifically, more than three-quarters of the respondents (77.4%) believe that it is necessary or very necessary to start teaching IFRS standards. Attitudes about the importance of IFRS instruction are expected to influence the timing and extent of IFRS curriculum adoption. It is also expected to reflect professional readiness for curricula changes related to the IFRS.

**Table 1: Professional views on the importance of teaching IFRS**

Opinions	Number of respondents	Ratio (%)
Very important	12	52.17
Important	6	26.09
Quite important	3	13.04
Not very important	2	8.70
Not important	0	0.00
Total	23	100

*Source: Compilation of the research team*

### Education level should be trained IFRS

Table 2 shows that almost three-quarters of respondents (73.9%) believe that IFRS should be universalized at both undergraduate and graduate levels; 18.5% think that IFRS should only be taught at the undergraduate level and 7.3% think it should only be taught at the graduate level. In addressing research question 1, this suggests that institutions should take steps to implement IFRS into their curricula regardless of the level of study.

**Table 2: Professional views on the level of education that needs to be trained IFRS**

Opinions	Number of respondents	Ratio (%)
Both undergraduate and graduate level	17	73.91
Graduate level only	4	17.39
Undergraduate level only	2	8.70
Total	23	100

*Source: Compilation of the research team*

### Steps to apply IFRS to the curriculum

According to Table 3, 39.3% of respondents said that there was no significant preparation at their institution to apply IFRS to the accounting curriculum; 23% of respondents indicated that they are actively evaluating future implementation of including IFRS in their curriculum. The results, obtained from Table 3, demonstrate that there is a need to improve the state of accounting education and curricula with regard to preparation for the transition to IFRS.

**Table 3: Professional views on steps to apply IFRS to curriculum**

Opinions	Number of respondents	Ratio (%)
Implementation is not important	11	39.29
Evaluating future performance positively	7	25.00
Applying important parts of IFRS to the current curriculum	6	21.43
Building a separate study program for the graduate level	3	10.71
Building a separate study program for the undergraduate level	1	3.57
Total	28	100

Source: Compilation of the research team

### Modern educational methods

This section examines how scholars in Vietnam perceive student-centered pedagogy in IFRS teaching. Principle-based standards such as IFRS encourage the use of innovative pedagogical approaches that focus on the development of students' critical thinking and judgment skills. This requires the student to be at the center of the educational process, which is not important for the teaching of rule-based standards (Bui & Porter 2010; Coetzee & Schmulian 2011; Howieson 2003; Parker 2001). Since the IFRS paradigm is the foundation of IFRS, it has been argued that following a framework-based teaching approach allows for a deeper and more robust understanding of IFRS conventions and concepts and develop students' professional judgment and critical thinking skills.

Explore the perceived usefulness of certain pedagogies to help address the implementation of IFRS inclusion in the curriculum through the following research sub-question:

*'How do scholars in Vietnam perceive approaches to teaching principle-based IFRS standards'*

Scholars expressed their opinion on the usefulness of certain pedagogical approaches in IFRS teaching, with Likert-scale responses ranging from 1 as "Totally unhelpful" to 5 as "Extremely helpful". As shown in Table 4, the method listed is said to be of relatively high value for teaching IFRS with a grade point average above four. This reflects scholars' awareness of the value of student-centered teaching methods, which will reflect lecturers' readiness in applying such methods.

**Table 4: Professional views on modern educational methods**

Methods	Mean	Standard deviation
1. Developing students' analytical, evaluation and reasoning skills by approaching reality	4.30	0.685
2. Inviting IFRS experts to provide students with real-world experiences	4.28	0.877

3. Arranging internships for students at companies before graduation	4.18	0.862
4. Simulating methods for students to approach real business	4.16	0.860
5. Comparing accounting principles of Vietnam and IFRS in specific lectures	4.13	0.937
6. Designing research projects related to outstanding content and issues in IFRS	4.07	0.820
7. Organizing presentations related to outstanding contents and issues in IFRS	4.01	0.909

ource: Compilation of the research team

### Challenges in teaching IFRS in Vietnamese higher education institutions

This section addresses the perception of accounting professionals in Vietnam about the obstacles associated with teaching IFRS. Table 5 presents challenges that may hinder or affect the teaching of IFRS in higher education institutions in Vietnam according to respondents, in which the response on the Likert scale ranges from 1 as “Not challenge at all” to 5 as “Highly challenging”. According to these results, it can be shown that accounting professionals in Vietnam are highly aware of the future challenges of teaching IFRS as they are incorporated into the accounting curriculum.

**Table 5: Professional views on challenges in teaching IFRS**

Opinions	Mean	Standard deviation
1. Language barrier	3.08	1.364
2. The development of curriculum materials for IFRS	3.04	1.232
3. Training the lecturers to teach IFRS	2.97	1.410
4. Qualifications of lecturers on IFRS	2.95	1.338
5. The cooperation of lecturers in teaching IFRS	2.73	1.355
6. Budget constraints	2.69	1.388

Source: Compilation of the research team

With regard to teaching materials, this section examines the materials that Vietnamese higher education institutions consider important for IFRS teaching. The results demonstrate that the respondents believe that the most important documents to facilitate the teaching of IFRS are the textbooks. The table demonstrates that 62.6% of respondents ranked textbooks as having the highest importance, while 22.1% ranked case study papers as having the highest importance. Comparing these results, presenting the rating ‘Development of curriculum materials for IFRS’ is the second biggest challenge for IFRS teaching, showing the importance of providing instructional materials are available that cover the full range of IFRSs to complement curriculum changes.

**Table 6: Curriculum materials for IFRS**

Materials	Number of respondents	Ratio (%)
Textbooks	13	61.90
Case-study papers	5	23.81
Powerpoint presentation	2	9.52
Video	1	4.76
Total	21	100

Source: Compilation of the research team

### Language and translation issues

A specific challenge to the teaching of IFRS and their incorporation into the curriculum in Vietnam is the issue of language and translation. Table 7 presents scholars Opinions on linguistic issues related to IFRS, where responses on a Likert scale ranging from 1 as “Strongly disagree” to 5 as “Strongly agree”. The results in Table 7 show a strong reluctance among professionals to teach IFRS in English (mean = 2.23). This result is not surprising as 61% of respondents said that they teach in Vietnamese. This also shows that professionals need translations and good quality IFRS documents to teach IFRS in Vietnamese.

**Table 7: Professional views on language and translation issues**

Opinions	Mean	Standard deviation
An equivalent translation of the IFRS into Vietnamese is not possible	2.51	1.234
Consistent and high-quality translations of IFRS teaching materials into Vietnamese are not possible in the immediate future.	2.40	1.217
IFRS should be taught and delivered only in English	2.23	1.276

*Source: Compilation of the research team*

### The role of external professional and specialized accounting bodies in the IFRS transition

To help address the role of professional and specialized accounting organizations in assisting universities to implement curriculum changes. The results show the need to participate in support activities from external professional organizations and from accounting experts in Vietnam. This suggests that much effort and involvement from professional and specialized accounting bodies is needed to support curriculum change initiatives at higher education institutions in Vietnam.

**Table 8: Activities to prepare for the introduction of IFRS into teaching in universities in Vietnam**

Activities	Number of respondents	Ratio (%)
No activity has been launched yet	10	40.00
Attending a seminar on IFRS	9	36.00
Attending IFRS training certification programs	3	12.00
Participating in the communication program related to the application of IFRS	2	8.00
Other	1	4.00
Total	25	100

*Source: Compilation of the research team*

A list of contributions and service items cited from the KPMG-AAA survey and related documents was provided to the experts to express their opinions on the contributions of the external professional and specialized accounting organizations (KPMG 2011). Responses on a Likert scale ranged from 1 as “Not valid” to 5 as “Extremely valuable”. Respondents found all contributions listed to be valuable, with a minimum mean of 3.99. This suggests that accounting experts in Vietnam expect external professional and specialized accounting organizations to contribute and provide assistance in translating the standards. It also reinforces the opinion of experts that

language barriers are the most challenging issue for the lecturers when teaching IFRS (as shown in Table 5). Furthermore, these results confirm the professional opinion that textbooks and specific researches are the most important teaching materials for IFRS training (as shown in Table 6).

The results of this study indicate that experts highly appreciate the importance of student-centered teaching methods. This coincides with the accounting literature encouraging teaching methods that reflect the future skills of accounting students and the new needs of the market (Coetzee & Schmulian 2012; Fortin & Legault 2010; Hilton & Johnstone 2013; Hodgdon, Hughes & Street 2011). However, professional awareness of the content and goals of student-centered teaching methods is needed to optimize the use of these methods. The majority of responses indicate a trend toward a rules-based approach to teaching as opposed to a principles-based approach. Therefore, it is necessary to create more conditions to improve professional capacity in teaching based on common principles and patterns through activities including specialized seminars and training programs.

Changing the curriculum requires emphasizing the importance and significance of the proposed change from all parties involved in the change process. From the results of the questionnaire, the majority of respondents believe that managers of professional organizations understand change is necessary to apply IFRS effectively. However, the results also show that there is low implementation efficiency in the plan to change. This suggests that communication needs to be expanded between academics and regulators to plan the transition to IFRS.

One of the most important factors to be addressed during the planning phase of IFRS implementation in the accounting curriculum is the lack of adequate IFRS documentation in Vietnamese. The results demonstrate that this is a significant factor in delaying the introduction of IFRS into the accounting curriculum in Vietnam. Respondents also expressed concern about the language barrier. This has led to inefficient use of teaching materials available in English and reluctance to use English as the language of instruction. Similar concerns have been cited in the literature in countries where English is not the first language (Carvalho & Salotti 2013; Coetzee & Schmulian 2013; Larson & Street 2004; Vysotskaya & Prokofieva 2013). In these countries, high quality and timely translation and availability of documents are an obstacle to the transition to IFRS. Trainer expertise with IFRS seems to be a major concern, which means that additional training of trainers in the IFRS field should be considered during the planning phase to prepare trainers to teach IFRS. As most professional accounting organizations are considered the primary providers of IFRS training and certification programs, play an active role in providing accounting professionals with training activities. In the field of IFRS, which is highly expected and appreciated by accounting professionals, this information will enable professional and specialized accounting organizations to offer training programs that meet the experts' needs.

## **CONCLUSION**

Applying IFRS is a practical requirement associated with the international convergence trend. The majority of countries in the world, especially developing countries, have been doing this and Vietnam cannot be out of the general trend of the world. However, for the successful application of IFRS, it is necessary to focus on IFRS training at training institutions to improve the capacity of accounting human resources in the renovation period.

Accounting training according to the trend of international integration requires the synchronous participation of state management agencies, professional organizations and training institutions. According to the above research results, the Ministry of Finance will no longer be concerned about IFRS training because many universities in Vietnam have experienced basic IFRS training in recent years. However, state management agencies need to build a clear legal basis in the spirit of international financial reporting standards to facilitate accounting training in the direction of IFRS convergence. The legal basis will affect the accounting practice, which in turn will affect the accounting training process in Vietnam. Professional organizations act as active intermediaries supporting the training team in updating the content and building the teaching experience under IFRS. At the same time, the training institutions quickly revised the content of financial accounting training to suit the change of the accounting legal framework in Vietnam. Thus, investing in accounting faculty is an optimal solution for accounting training institutions when facing the challenge of innovation and international integration in accounting training.

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# PROMOTING INFORMATION AND COMMUNICATION TECHNOLOGY IN PUBLIC ONLINE SERVICE PROVISION: COMPARATIVE ANALYSIS OF VIETNAM AND DENMARK

Dr. Nguyen Thi Ngọc Mai<sup>1</sup>

**Abstract:** *Applying Information and Communication Technology (ICT) to public service delivery in State Officials contributes to transparency, accountability, and costs saving to improve administrative efficiency. This is an growing trend for administrative reform in worldwide countries. This paper examines the policy of promoting ICT in public service delivery in Vietnam and Denmark. These countries have applied different methods for online public service using. The Vietnam's Government has also created a thoroughly legal foundation as the way Denmark have done to develop public service delivery. However, the results of online public service delivery are still lower than expected, and the online service index in Vietnam has just reached the average level of the world. Therefore, in order to push citizens to use online public services, the VietNam's Government should upgrade faster the personal identification data system, as well as promote to propagate and popularize online public services. Besides, VietNam's Government also should protect personal data and administrative system security to keep administrative system safety and efficiency in Vietnam.*

**Keywords:** *ICT, online public services, Vietnam, Denmark, policy.*

## 1. INTRODUCTION

Information and communication technology application in state agencies for administrative procedures plays an important role in the e-government roadmap order to increase efficiency, transparency and participation of the people. Online public administrative services creates favorable conditions for people and businesses, which offer them to reduce pressure on paperwork in carrying out administrative procedures. Beside, this helps people and businesses save time and effort in the process of using public services. Instead of going to a government agency, servants only need a computer connected to the internet to perform administrative procedures on the website, pay fees and charges online and then wait to receive the results online or by post.

There is increasing trend of online public service provision by countries around the world. According to United Nations, the average online public service index in the world increased from 0.4178 in 2010 to 0.562 in 2020 (United Nations, 2020). Most local government portals can be accessible via mobile device; which demonstrates an changing awareness of ICT application in public administration service delivery. Especially, during the Covid-19 epidemic, online public services are even more necessary in information transmission, direction, and cooperation between policy-making agencies and society.

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In the concepts of the science and technology development, VietNam's Government has issued a long-term strategy of using information and communication technology in public service provision to people and businesses since 2010. Up to now, the Vietnam's Government has issued many projects, strategies, legal documents, and guiding documents on online public services. These can be mentioned in the Project on the National Document Linkage Project in the Decision No. 626/QD-VPCP issued in August 1<sup>st</sup>, 2019 by Minister, Chairman of the Government Office; Decision No. 28/2018/QD-TTg in July 12<sup>th</sup>, 2018 by the Prime Minister on sending and receiving electronic documents in the state administrative system and many other documents. However, the results of the development of online public services in Vietnam have not been as expected. According to Ministry of Information and Communications, the number of online filings is quite low. This accounted for 24.24% of the total number of public services provided by the Central Officials and 9.69% of the total public services provided by Local Officials in the first quarter of 2018 (Ministry of Information and Communications, 2020). According to the United Nations 2020 assessment report on e-government development, the results of Vietnam's online public service index (OSI) increased from 0.30476 in 2010 to 0.6529 in 2020, was higher than World average online service index (0,562 in 2020). This number was quite low compared to Denmark. This country ranked first out of 197 countries in the e-government index in 2020 with 0.9758 points, and has a high index of online public service delivery in the group of countries (at 0.9706 points). United Nations, 2020). In addition, Denmark is also the leading country among the EU member states in terms of the percentage of people using broadband. The percentage of people using internet services in Denmark is higher than the European average, regardless of whether it is a common service such as sending emails, searching for information, paying online, selling goods, etc. services or uploading self-generated content online (Cepparulo and Zanfei, 2021).

Getting high online index like Denmark is one of the most target for other countries, especially developing country as Vietnam. This paper aims to compare the methods of Vietnam's government and Denmark's government to apply ICT for online public service delivery. Denmark is developed country with high quality of public online service while Vietnam is developing country with lower public online service development. The comparison brings Vietnam experience lessons in speed up of the process for modern administration system. The paper bases on the secondary data that are collected by The United Nations Organizations.

## 2. LITERATURE REVIEW

Online public services create "public value" for the people (Stoker G, 2006). Public value is the public's expectations of the government and the public services it provides (Kelly G, Muers S, Mulgan G, 2002). The application of information technology in online public service provision is a trend in the era of technology revolution 4.0, especially in developing countries where administrative activities are still cumbersome and complicated (Tino Schuppan, 2009). Applying ICT in public service delivery can increase inclusion, democracy, transparency in public sector. In addition, ICT application for public sector has completely brought ample benefits for citizens and the government. In EU countries, applying technology for public services brings the government closer to their citizens (Cepparulo & Zanfei, 2021). There are many studies indicating key factors influencing to online public service delivery in different countries. One of these is social factor involving people's awareness of network,



age, education, gender. Especially in developing countries, where citizens have limited knowledge of technology leading to slow down the development of online public services. Besides, the digital gap also lead to the failure of the development of online public services in developing countries. The larger the digital gap is, the slower the development of online public service delivery is (Ebbers et al., 2016). Therefore, some authors agree that before investing in information and communication technology, developing countries should focus on training their citizens to improve citizens' online public service using (Vrabie, 2015).Tangi et al. (2021) argue that government policy has a great impact on the development of online public services. Government should do compulsory method for their citizens with online public services. The Government needs to replace traditional public service delivery (Tangi et al., 2021). People often prefer traditional techniques to modern technicques. In other words, citizens are interested in traditional method like telephone, front desk, rather than online method. In Netherland, traditional administration is still preferred to online administration despite increasing the online transaction channel (Pieterse & Ebbers, 2020). However, in the undeveloped country where many poor people do not know to use technology. This lead to state that they have very little opportunity to use technology, they will be restricted to using online public services if the government only provides these services.

Conclusion, there are many studies of online public services. These mention in affecting factors to the development of online public services. This paper also analyzes institutional factors in Vietnam and Denmark to impact on online public service development. This is value lessons for Vietnam government to push online public services.

### **3. METHODOLOGY**

This paper uses a comparative method to analyze the way to promote ICT application in public service delivery in Vietnam and Denmark. Denmark is leading country in ICT application in public areas, while Vietnam is lagging country with lower economic growth. This comparision is completely good for Vietnam because of following reasons. Firstly, the application of technology in public service delivery is a way to achieve economic growth. Besides, Denmark's successful lessons in promoting ICT application help Vietnamese government shorten the development of online public services.

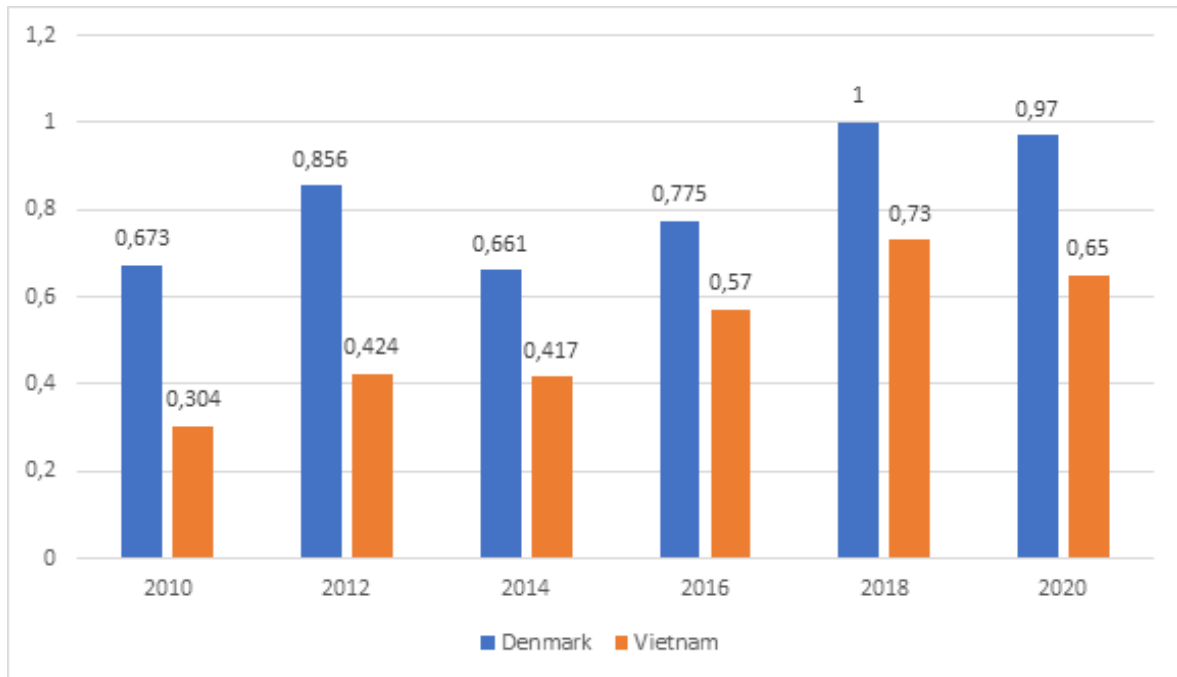
### **4. RESEACH RESULTS**

#### **4.1. Online public service background**

Online public services are services provided by the government in the network environment. Users have not to go to the officials to transact with state agencies. They just need computers connected with internet and do services directly on the website. They only need to fill out the form. Then they can pay the fees and charges online and wait for the results to be returned online or by post (no need to go directly to state agencies). Online public administrative services play an important role in the roadmap to building an e-government, deciding the effectiveness and efficiency of an open government and transparent administrative procedures. At the same time, it helps individuals and businesses reduce their travel time to do public services. In other words, online public services offer state agencies communicate with citizens conveniently, quickly and economically.

#### 4.2. Results of online service index of Vietnam and Denmark

Online service index illustrates the scope and quality of each country's online service. Figure 1 illustrates an upward trend of the online service index of Vietnam and Denmark.



**Fig 1. Vietnam and Denmark online service index**

Source: <https://publicadministration.un.org>.

This figure shows Denmark OSI is quite high (above 0.6). In 2018, Denmark OSI achieved absolutely value 1, which proved the high quality and wide scope of public online services in Denmark ([https://Publicadministration.Un.Org/Egovkb/En-Us/Data/Country-Information/Id/48-Denmark, 2022](https://Publicadministration.Un.Org/Egovkb/En-Us/Data/Country-Information/Id/48-Denmark,2022)). Vietnam's online service index is lower than Denmark's online service index in the period of 2010 and 2020. Vietnam's index raised from 0.304 in 2010 to 0.65 in 2020, while Denmark's index improved from 0.673 in 2010 to 0.97 in 2020. In 2012, Denmark's online service index was 0.856, while Vietnam's online service index got 0.424. In 2028, these countries all got highest online service index (Vietnam's index was 0.73, Denmark's index was 1). Overall, Denmark's index remained high, which means great quality and spreading scope online service in Denmark. Vietnam's index increased higher average (0.5) in 2016, lower than Denmark's index ([https://Publicadministration.Un.Org/Egovkb/En-Us/Data/Country-Information/Id/189-Viet-Nam, 2022](https://Publicadministration.Un.Org/Egovkb/En-Us/Data/Country-Information/Id/189-Viet-Nam,2022)).

#### 4.3. Promoting public online services in Vietnam

##### *\* Establishing legal foudation*

In 2010, the Vietnamese government issued a plan to apply information technology in state agencies. This is a significant change in the administrative reform process, establishing ICT in public services delivery. Accordingly, state officials promulgate many legal regulations on digital signatures, online security, and digital documents. This is showed on Decision No. 28/2018/QD-TTg in 2018 on sending and receiving digital documents between state officials marked the critical

step in administration system innovation. Obviously, This Decision will allow the exchange of documents between state agencies. As a result, VietNam's State officials surely saved more time and costs. This created the first premise in using ICT to improve the efficiency of public administration work.

The digital signature is also one of the vital issues in online public service provision because of its security. VietNam's government issued regulations on using digital signatures in Circular No. 41/2017/TT-BTTTT. However, digital signatures in Vietnam recently have been used in limited state agencies but not yet applied to the entire population. Digital signatures have shortened time to approve and send documents between state agencies, save waiting time for public service users. This is a turning point in online public service delivery in Vietnam.

The government's regulations on online public service delivery are implemented in local officials. For instance, Decree 43/2011/ND-CP in 2011 required all local and central officials to deliver public services on their websites following the government's instructions. The Circular 10/2016/TT-BTTTT of Minister of Information and Communications issued on 1/4/2016 was a national technical regulations on identify structures and information data packet format to connect document management systems.

Digital identifiers of agencies and organizations are specified in Decision No. 20/2020/QD-TTg on 22/7/2020 issued by the Prime Minister on electronic identifiers of service agencies and organizations provide services of connecting and sharing data with ministries, branches and localities. This helps agencies as well as website users easily searching and performing operations on the webpage. VietNam's Government is promoting the implementation of identification codes to citizens through chip-based ID cards, leading to manage population data easily.

*\* Encouraging and compulsory measures for people using public online services*

Vietnam has also taken measures to encourage people to use online public services such as online tax declaration, performing online customs procedures, and accessing personal social insurance information online. The Government requires state agencies to regularly report on the progress of online public service provision, such as updating records on the portal, and online public services provided online.

*\* Improving infrastructure system*

Technical infrastructure system is the most difficult problem for developing countries due to high financial budget. VietNam's government issued the National Document Linking Axis project in Decision No. 626/QD-VPCP dated August 1, 2019 of the Minister, Chairman of the Government Office. The operation of the National Public Service portal on the website [dichvucong.gov.vn](http://dichvucong.gov.vn) is of great significance in providing online public services in Vietnam. The National Public Service Portal is a tool for Government, ministries, localities to monitor and assess the online public administrative procedures. These improve transparency in the implementation process, thereby reducing corruption. In addition, the linking of documents is an important premise to reduce paper usage, working processing time, and provide tools to monitor the execution of work more quickly, efficiently, accurately. The linking of documents between state agencies (government-to-government: G-to-G), between state agencies and individuals (government-to-individuals:

G-to-I) and between agencies Government-to-businesses: G-to-B is very important in providing online public administrative services. With text linkage, state agencies in any location can receive text information fastest instead of receiving paper documents as in the traditional administrative model. Businesses and citizens easily access public services through local website. They only need a computer connect to internet to perform administrative procedures instead of going to state agencies. This will reduce costs as well as time for people and businesses.

#### **4.4. Promoting online public services in Denmark**

##### *\* Establishing legal foundation*

Denmark's government has continuously launched initiative to promote e-government since the 1990s. The first stage can be mentioned as "info-Society 2000" on ICT policy in 1994. While another countries initially considered digital government as core national strategy, Denmark advanced their digital government. Denmark's national e-government strategy consists of three phases, the first titled "Towards e-Government: a Vision and Strategy for the Public Sector in Denmark (2001-2004)"; in which the government has implemented "digital for cooperation" to push cooperation in the public sectors between cities, regions and central government (G-to-G). In the second phase, the government not only promoted digitization of G-to-G but also digitalization within government (within-G) by launching another strategy called "Realizing Potential (2004-2006)." in 2004. In the third phase, the strategy titled "Towards better digital services, increased efficiency and stronger cooperation" by 2007, aimed at three goals: (1) develop better digital services for its citizens, (2) improve operational efficiency between citizens and government; (3) strengthen the comprehensive cooperation system to promote digitalization. Significance in Denmark's strategy is the impulse of digitization between government agencies in the first step (G-to-G) including public sector supporting organizations. Next step is implement a digitalization strategy between government agencies and enterprises (G-to-B) and between state agencies and citizens (G-to-C), at the same time promoting digital services with high quality evaluated by the people and state agencies. These strategies not only increase convenience for citizens and organizations, but also increase service efficiency.

##### **impulse**

One of the factors contributing to Denmark's success is the Digital Agency. Denmark's government established Digital Task Force (DTF). The DTF creates horizontal connections between central government agencies and vertical connections between central government and local agencies. Otherwise, DTF has performed coordination tasks for all members involved in e-government. DTF has conducted 35 inter-organizational projects such as Borger.dk (national citizen portal), Virk.dk (national business portal), Digital Signature (since mid-2010, NemID) and NemLogin. DTF has aimed at Reaching consensus across organizations. The well-coordinated vertical and horizontal cooperation between government agencies was intended by Denmark's government to promoting ICT application for online public services. These projects aim at a unified coordination among the organizations and this unity makes the project successful. In addition, each Danish ministry has internal or external specialist units promoting digitalisation. For example, the Ministry of Education has UNI-C; The Ministry of Health has a Digital Health that is responsible

for implementing the national strategies in the relevant field and in cooperation with the DTF. This means that the DTF has the functions of planning and coordinating e-government in general. These specialized units cooperate with the DTF and promote digitalization in their fields. The smooth vertical and horizontal coordination helps Denmark not only promote ICT adoption but also implement national strategies for e-government.

*\* Encouraging and compulsory measures for people using public online services*

Denmark's government has provided their servants and business with online public service following criterias: convenience, speed, accurate, efficiency. For example, e-filing of tax return in online way helps the users save more time than traditional way. In Denmark, online bank is widely used because users have not to pay fee for interbank transfers. Denmark's government also implements compulsory method for using online public services. Applications for the Danish national pension system and scholarships for doctoral programs must be submitted online.

*\* Improving Infrastructure system*

The Denmark's government has set up Borger.dk, which is a comprehensive online government services platform. This website was designed entirely from the user's perspective. The website provides citizens with a one-stop transaction for public services. Denmark's government gathered specialist from different fields to improve software through repeatedly conversation with users. This website also provides review page for its contents, design, potal functions.

Denmark's government has operated Virk.dk for businesses to find information of business law, business register and electronic mailbox (eBoks or digital post office which allows citizens and business to contact with government for reporting, questioning,...).

Digital signature is key factor for online public service success in Denmark. Digital signature offers authentication and signature. For instance, people's signature provides their personal information which is stored by government. Digital signature in Denmark was based on software solution, provided free to users. Digital signature is link with bank. Citizens can use it for their daily life and make their transaction easier than traditional method.

## **5. CONCLUSIONS AND DICUSSION**

Vietnam and Denmark have different ways to promote ICT application for online public services. Denmark has designed early digital strategy, in which emphasized on G-to-G, G-to-B, G-to-C. In Vietnam, the plan to apply information technology for public services was issued later and applied for a short period of time.. Besides, Denmark's government required their citizens using some online services, while Vietnam's government tended to use incentives for their servants. Vietnam's government also runs national public service portal that is still not attracted by their citizens.

Delivering online public service is an inevitable trend to enhance transparency, the efficiency of the administration system in the process of administrative reform of worldwide countries. Recently, the Vietnamese Government has issued and implemented many legal regulations, as well as spent state budget to apply information communication technology for public service delivery. Although the results of online public services have improved, citizens and enterprises were not satisfied and preferred to use online services. Therefore, the VietNam's Government should practice the following solutions:

The first is implementing compulsory measures and incentive measures for citizens using online public administrative services. Servants can perform online payment for fees, taxes, fines for their administrative procedures, performing public services on the Public Service Portal. The Ministry of Finance's Public Service Portal should promote non-cash payments in financial transfer of citizens. It is necessary to make mandatory regulations of online transactions between businesses and citizens and state agencies.

The second is setting up training programs for businesses and citizens. VietNam's government should support digital transformation in businesses, especially small and medium-sized enterprises. They need changes in business models, product production processes, improving labor productivity, developing markets. Technology offers them improve productivity competitiveness, reducing administrative burden. Vietnam's government should create tax and fee incentives for citizens using online public services.

The third is to design a user-friendly website. They can make regular surveys for citizens of state webpage. In addition, digital signatures need to be widely used. This is able to connect directly to banks, which is very useful for payment activities of fees, charges or other payments.

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# **IMPACT OF DIGITAL TRANSFORMATION ON SUSTAINABLE BUSINESS DEVELOPMENT AT COMMERCIAL BANK OF VIETNAM - VIEW FROM VIETCOMBANK**

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**Abstract:** *Digital transformation and sustainable development in the integration process are two issues discussed a lot in recent years. Within the framework of this article, the author explores the impact of digital transformation on the sustainable business development of commercial banks in Vietnam today. The article is organized in 3 parts: part 1: Overview of digital transformation and sustainable business development; part 2 Actual situation of digital transformation associated with sustainable business development at Vietcombank; Part 3: Proposing some recommendations to promote digital transformation and sustainable business development for commercial banks.*

**Keywords:** *Digital transformation; Sustainable business development; Commercial Bank of Vietnam, Vietcombank.*

## **1. INTRODUCTION**

Currently, commercial banks in Vietnam are very closely considering the impact of business activities on environmental factors, economic and social factors. This can be shown very clearly in the sustainable business development reports presented in the bank annual financial report. At the same time, the number of digital transformation is also taking place extremely strongly at each bank. Especially during the recent covid-19 pandemic, technologies have proven to play an extremely important role in maintaining and ensuring solid business for banks when required on isolation and social distance continuously by authorities. In this article, the author gives a case of a bank named joint stock commercial bank for foreign trade of Viet Nam (Vietcombank) to study the impact of digital transformation on the sustainable development at this bank, from that is used to give the link and recommendation.

## **2. LITERATURE REVIEW**

### **2.1. The concept of digital transformation at commercial banks**

Digital transformation is to bringing operations to the digital environment, optimizing the organization's operations, optimizing customer experience and launching new business models by data and digital technology. Digital transformation is an objective necessity, an irreversible process, so it needs to be done right away if people don't want to be left behind and poor.

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Digital transformation in commercial banks is the process by which banks integrate technology into all levels of banking operations, digitize business processes in the direction of intelligent automation, operation and provision of products and services on the platform. Digitally, optimally exploiting data to enhance customer experience, improve work productivity, and improve service delivery capacity. The digital transformation process in the banking sector can be divided into three aspects, which are implemented sequentially or simultaneously depending on each commercial bank, which are: (i) digitalization of channels of interaction with customers; (ii) digitizing some internal business processes and (iii) digitizing the entire operation of the bank.

## **2.2. The concept of sustainable business development at commercial banks**

The term “sustainable development” first appeared in 1980 in the publication of World Conservation Strategy (published by the International Union for Conservation of Nature and Natural Resources – IUCN) with very simple content: “The development of mankind cannot only focus on economic development, but also respect the inevitable needs of society and the impact on the ecological environment”.

According to the Asian Development Bank (ADB): “Sustainable development is a new type of development that integrates the production process with resource conservation and environmental quality improvement. Must meet the needs of the present generation without compromising our ability to meet the needs of future generations”.

Namely put, sustainable development must ensure effective economic development, a just society and a protected and preserved environment. To achieve this, all socio-economic sectors, authorities, social organizations... must join hands to implement in order to harmonize 3 main areas: socio-economic – environment.

According to the 2010 Law on Credit Institutions, commercial banks’ business activities are regular business and provision of one or some of the following operations: Receiving deposits; Credit extension; Provide payment service via account. Therefore, sustainable business development in the banking sector means that commercial banks both ensure effective business activities while taking into account environmental and social impacts in the supply process the above occupations.

## **2.3. Legal framework for digital transformation and sustainable business development in the banking sector**

According to Decision No. 2655/QĐ – State Bank dated December 26, 2019 on approving the Strategy for Information Technology Development of the Banking Sector up to 2025, with orientation to 2030, specific goals for the whole The banking industry in general and credit institutions in particular have successfully implemented the digital transformation plan thanks to the application of key technologies of the 4th industrial revolution; standardize banking operations and operations on the basis of technology and develop digital banking services in cyberspace to promote non-cash payments and increase the scope of deployment to customers. Understanding the general strategy of the State Bank, Vietnamese banks are now proactive and aware of the imperative of digital transformation. This is very important for the economy in general and for each bank in particular. Participating in digital transformation is that commercial banks must both aim to modernize technology to approach many banks in the region, while also implementing the



State's major policy on developing the digital economy. , Digital Government and at the same time must affirm the prestige, brand, and improve competitiveness in the market.

In parallel with the digital transformation process, sustainable development is also a requirement of the management agency that commercial banks want to aim for. According to Decision No. 986/QD-TTg on the Strategy for Development of Vietnam's Banking Industry to 2025, with orientation to 2030, the goal is to develop a system of credit institutions operating in a transparent, competitive and secure manner. Safety, sustainable efficiency; diversified structure in terms of ownership, scale and type; on the basis of technology, advanced banking management, in line with operational standards in accordance with international practices, towards the development level of the group of four leading countries in the ASEAN region by 2025; adapt to the process of liberalization and globalization. In addition, there is Decision 1604/QD- State Bank approving the green banking development project in Vietnam, with the aim of increasing the awareness and social responsibility of the banking system for environmental protection. Environment, combating climate change, gradually greening banking activities, directing credit flows to finance environmentally friendly projects, promoting green production, service and consumption industries, energy clean and renewable energy; actively contribute to promoting green growth and sustainable development.

Through the above, it can be seen that two issues that commercial banks are currently paying attention to and implementing are: Digital Transformation and Sustainable Business Development. From a personal point of view, sustainable business development is considered the destination, while digital transformation is one of the important strategies in business activities of commercial banks; in which environmental and social issues are integrated into the bank's lending, capital mobilization, and payment services to achieve the ultimate goal of sustainable development.

#### **2.4. Impact of digital transformation on sustainable business development in banking sector**

Digital transformation in the banking sector is not simply digitizing transaction channels with customers (front-end), but instead is transforming the entire operating model and automating internal processes (back-end) of the bank based on new and modern technology platforms such as RPA (Robotic Process Automation); machine learning (Machine Learning); artificial intelligence (AI); Blockchain; Big Data...The article examines the impact of digital transformation on sustainable business development in banks from three angles: "Economic efficiency"; "Environment" and "Society" are as:

- Regarding economic efficiency:

- + Helping commercial banks maintain business continuity: Digital transformation helps commercial banks reach customers more easily and conveniently without the limitation of time and space like the traditional approach. Especially, during times of epidemics, natural disasters, and enemy sabotage, digital banking channels have grown even more and proved their pivotal role in helping banks maintain business continuity with their customers. Simultaneously, the internal processes in the bank are automated, and the application software to support employees working remotely has ensured stable and uninterrupted business operations for the bank.

- + Help commercial banks increase profits sustainably: Digital transformation is a trend, commercial banks want to develop sustainably and not be left behind, they must do digital

transformation. Digital technologies give commercial banks the ability to analyze data to develop utilities suitable for different customer segments, and barriers to customer access are virtually eliminated. The increase in the number of customers opening online accounts and the increase in transaction volume through digital channels helps commercial banks improve the ratio of demand deposits/term deposits at CASA, thereby facilitating an increase in net interest income margin (NIM) for commercial banks. In addition, credit card transactions with added services such as online installment transfer support, cashback accumulation, discount offers at some card acceptors also stimulate card sales. Increased rapidly, bringing a significant source of fee income for the bank. Vietnamese commercial banks are currently aiming to increase the proportion of income from non-credit activities to total income to 16-17% according to the banking industry development strategy to 2025, with orientation to 2030. These incomes are sustainable, stable, and bring less risk to commercial banks than credit activities. Therefore, digital transformation plays a very important role in creating conditions for commercial banks to develop utilities and services in cyberspace suitable to customers' predilection in order to attract and retain customers and stimulate customers. Customers use their bank's products and services to further increase their revenue from service fees.

+ Improve labor productivity, reduce costs: The Bank applies technological advances such as automating internal business processes with Robots, artificial intelligence or machine learning, which will help improve productivity. Processing efficiency is amazing compared to humans because technology machines can work almost continuously without fatigue and save time to perform many different complex tasks instead of having to process them manually through many stitches. Moreover, applying technology to handle repetitive internal business processes will limit operational risks caused by subjective human errors. The investment in technology may have large initial costs such as the cost of the core banking system (Core – Banking); costs for software, applications, automatic transaction processing equipment; costs of consultants, research, operation... These costs may increase the bank's operating costs in the early years, but in the long-term, commercial banks will gradually take advantage of technology to perform many jobs instead of having to recruit more employees and expand the office, thereby reducing a lot of salary costs and rental costs.

- About environment:

+ Reduce paper use: Digitization helps commercial banks reduce the use and storage of paper data. All transaction information with customers is electronically authenticated and encrypted and stored on software, applications, and cloud computing. Besides, the increasingly developed and convenient digital banking services will stimulate customers' non-cash spending behavior, thereby reducing the need to use paper money but instead of electronic money or cryptocurrency. This has important environmental implications as, according to data from the global forest resource assessment, about 80,000 to 160,000 trees are cut down every day around the world with a significant proportion being used in the paper industry. It's also the main impact of deforestation that continues to cause global climate change.

+ Reducing the need for electricity and water, reducing personal emissions: When commercial banks move to the stage of full digitization, that is, to a completely digital banking model, then

commercial banks will greatly reduce their dependence on Staff. Employees can work remotely or commercial banks do not have to recruit more personnel, thereby reducing the need for electricity and water of the headquarters, reducing the need to rent and buy new premises, and reduce the need for personal living at the office. Office premises such as eating and drinking, thereby helping to reduce the need for electricity and water and reduce personal waste.

+ Reduce vehicle emissions: Digital transformation makes it possible for commercial banks to search and connect with customers remotely through IoTs (Internet of Things). This helps to limit the travel of many customers, thereby reducing emissions from personal vehicles such as motorbikes and cars into the environment.

- About society:

+ Successful digital transformation in the banking sector creates a premise for national digital transformation: According to Resolution No. 52-NQ/TW of the Politburo and Resolution of the 13th Party Congress defining goals and orientations The country's development in the 2021-2030 period is to develop a digital economy on the basis of science and technology, innovate, and promote national digital transformation. In Decision 749/QĐ-TTg of the Prime Minister approving the program "National digital transformation to 2025, orientation to 2030", banking is identified as a field with social impact, a lifeline of the economy, related to people's daily life, changing perceptions the fastest, bringing efficiency, helping to save costs and necessary to prioritize digital transformation first in order to progress to the development of e-Government, towards Digital Government.

+ Save time and costs for customers: In the 4.0 era and legal conditions allow, customers can open online bank accounts without having to go to the bank branch to wait in line. . At the same time, most transactions and payments today can be made on digital banking channels 24/7 and are even free to maintain and use; thereby bringing convenience, speed and savings to the majority of customers.

+ Improve customer experience: Customers now have the right to choose the right bank for their needs based on how they perceive the organization through the media and actual experience. Applying technology in both back and front services helps banks to solve customer problems such as online inquiries and complaints more quickly and conveniently. In addition, technologies such as Chatbots, AI, and Machine learning are increasingly able to better analyze requests and collected data from customers, thereby bringing customers satisfaction and understanding user habits and partly predict the future behavior and needs of customers.

### **3. METHODOLOGY**

The author uses the following methods to study the impact of digital transformation on sustainable business development at commercial banks in Vietnam, a specific case at Vietcombank:

- (i) Data collection method: The author collects domestic and foreign sources related to the research topic as well as statistics from reputable sources as a basis for building a theoretical basis on the impact of transformation towards sustainable business development in commercial banks;
- (ii) Evidence method: The author mentions a specific case of Vietcombank, through showing the

specific impacts of digital transformation on sustainable business at this bank, the author draws out the following conclusions: Specific lessons from which to propose some promotion solutions.

#### **4. RESEARCH RESULTS**

##### **4.1. Digital transformation picture at Vietcombank**

Vietcombank identifies digital transformation as a strategic breakthrough and is deploying with great determination a comprehensive and comprehensive digital transformation action program with the aim of reaching the digital transformation maturity level among the top of the top leading banks of ASEAN by 2025, including more than 300 initiatives with 4 pillars: Digitization (Digital), Data, Technology and Transformation”, Mr. Pham Quang Dung – Chairman of the Board of Directors Vietcombank shared.

From very early, Vietcombank always determines technology and digitalization as key factors, determining the maintenance of competitiveness. Since 2001, Vietcombank has pioneered the provision of digital services to customers, starting with the first version of Internet Banking for individual customers and VCB-Money system for customers to organize.

In March 2016, Vietcombank launched the digital technology transaction space Vietcombank Digital Lab. Vietcombank Digital Lab is part of the overall project of building a modern branch model (Smart Branch) according to Vietcombank’s digital banking development strategy.

From January 27, 2020, Vietcombank has officially provided services on the new Core – Banking system with the name Core Signature. The implementation of the new Core – Banking system is of great significance to Vietcombank, allowing the bank to diversify products and services provided to customers, especially digital-based products and services.

In July 2020, after a period of focused research, Vietcombank officially consolidated digital transaction platforms on Internet Banking, Mobile Banking and launched the brand new VCB Digibank digital banking service. VCB Digibank is expected to bring new experiences, opening an era of digital service experience in a “completely new” and “different” way.

Also in 2020, Vietcombank has put into operation many new systems such as: MPA multi-dimensional profit analysis; HRM SuccessFactors human resource management, promoting training and testing through E-learning... and launching many transformation projects, applying modern technology to improve operational and governance capacity according to international practices such as Treasury, ALM.FTP, IFRS9, PCM...

On November 26, 2020, in Ho Chi Minh City, IDG Group and Vietnam Banks Association (VNBA) cooperated to organize Retail Banking Forum 2020. At the event, Vietcombank was honored as “Vietnam’s typical digital transformation bank” 2020”.

On December 4, 2020, the State Bank of Vietnam issued Circular 16/2020/TT-state bank allowing customers to open online accounts without going to a transaction point, creating favorable conditions for Vietcombank to reach its customers through the Internet. Up to now, Vietcombank’s digital services have been increasingly upgraded and diversified. The number of individual customers using Vietcombank’s Digibank application has grown strongly in recent years. In the

first 11 months of 2021 alone, the number of customers on digital channels increased by 44%, the number of transactions increased by nearly 57% and the transaction value increased by 64%. Every day, Vietcombank's digital channels smoothly handle 2.5-3.5 million transactions with a value of 18-36 trillion dong. The rate of transactions of individual customers on digital channels accounts for 97% of the total number of transactions.

In May 2022, Vietcombank applied AI Chatbot on Vietcombank's Fanpage and Website to support timely response to customers' questions and complaints to increase service quality and service.

#### **4.2. Sustainable business development results from digital transformation at Vietcombank**

Vietcombank uses the standards of the 2016 unified GRI sustainability reporting standards to assess sustainable development, including: Economic standards (GRI 200); Environmental Standards (GRI 300); Social Standards (GRI 400). Owing to digital transformation in many aspects, Vietcombank has achieved certain results such as:

- Economic standards (GRI 200):

- + Ensuring safe and continuous business operations: In the context of the Covid-19 epidemic having far-reaching impacts on all areas of the economy, especially when directed 16/CT-TTg dated 24/07/2021 issued by the Government to require people to practice social distancing, limit face-to-face contact, encourage remote work, alternate breaks, and stay at home... Vietcombank has proactively assigned tasks to the Public Service Center information technology establishes an internal network connection to personal computers at home so that employees can work remotely; enhance automation of some internal business processes by software. At the same time, digital banking services such as VCB Digibank, sms-banking, Phone banking... are guaranteed to operate smoothly 24/7 and are continuously improved and added with new features to meet diverse needs and requirements customer experience. Due to that, Vietcombank always ensures stable and uninterrupted business operations.

- + Achieve growth and profit targets: Vietcombank's total assets have continuously increased over the years, by the end of 2021, Vietcombank's total consolidated assets have reached more than 1.4 million billion VND, an increase of 7 % compared to 2020. Vietcombank's consolidated profit before tax reached VND 27,389 billion, an increase of 19% compared to 2020. On december 31, 2021, Vietcombank's market capitalization reached nearly USD 17 billion, continuing leading listed banks.

- Environmental standards (GRI 300):

- + Digitizing stored data, automating some business processes, interacting with customers more often on digital channels helps Vietcombank reduce the need of using a large amount of paper and office materials.

- + Digital media such as Digital newsletter; Email; internal chat application such as Skype, Line, Telegram;... help Vietcombank promote communication, education, and morale for staff throughout the system on environmental protection work. The school is associated with the office environment, saving electricity and water, reducing emissions and maintaining a green, clean and beautiful working environment

- Social standards (GRI 400):

+ Owing to digital transformation, contributing to business activities, Vietcombank has achieved its profit target, thereby deducting nearly 11 trillion dong from the State budget in 2021, becoming one of the most enterprises paying the state budget.

+ Following 2020, in 2021, thanks to the strong financial potential from digital transformation, Vietcombank has continuously implemented 4 interest rate cuts to support the business community and people affected by the COVID-19 pandemic, especially in the 19 southern provinces and cities that apply social distancing. The total amount of interest Vietcombank supports customers for the whole year of 2021 is over 7,100 billion VND, in 2020 is 3,700 billion VND. This is the largest amount Vietcombank has ever spent to help and share with customers. At the same time, Vietcombank has been a pioneer in debt restructuring, keeping the same debt group for customers; implemented many low-interest loan programs for new loans. At the end of 2021, Vietcombank announced the application of a policy of waiving all money transfer fees and service maintenance fees for all individual customers using VCB Digibank digital banking services.

In 2021, Vietcombank has implemented social security programs with a total committed amount of about 723 billion VND, of which to support COVID-19 disease prevention and control with an amount of about 381 billion VND. In the 5-year period 2017-2021, Vietcombank's social security activities are VND 1,548 billion.

### **4.3. Some general difficulties and challenges**

Digital transformation brings many positive aspects to commercial banks in general and Vietcombank in particular in the journey to conquering sustainable development; However, each bank is and will have to face certain difficulties and challenges, which are:

First, the legal framework related to digital transformation is still incomplete and slow to promulgate compared to development requirements. Advanced technologies 4.0 such as artificial intelligence AI, Automatic Robots, Blockchain technology,... are the foundation for digital transformation but there are no specific guidelines for commercial banks to refer to applied in business practice, from which it is possible to develop appropriate regulations and policies.

Second, lack of capacity to apply 4.0 technologies (cloud computing, big data, artificial intelligence, blockchain...). The capacity here is reflected in two aspects: financial capacity and research and implementation capacity. Investment costs for new technologies often depend on the size and digital strategy of each bank. According to a Bank Director survey of banks in the US, the technology investment budget in the surveyed banks is on average about 1% of assets, banks with assets under \$500 million are spending. More, at an average of 3% of assets, larger banks with over \$1 billion in assets spend more on expertise, in the form of internal staff and managed services. An average of 40% of technology budgets go to core systems. In Vietnam, the average commercial banks spend from a few tens to several hundred million dollars a year on technology depending on the size of each bank and this number is still very modest compared to the investment of the giants. Technology giants like Google or Amazon (about 3-40 billion dollars a year accounting for 12-13% of operating costs). In order to pursue a long-term digital transformation strategy and constantly have to keep up with new trends, updating and upgrading

technology infrastructure, even removing and completely renewing it, will pose a requirement on financial potential not small for each commercial bank. Besides, the ability to effectively research and deploy new technologies is also one of the significant challenges for each commercial bank. According to PWC (2020), research has shown that the majority of digital transformations have not delivered the desired level of results. Analysis indicates that 70% of all digital transformation initiatives fail to meet their goals. Of the \$1.3 trillion that was spent on digital transformation in 2018, an estimated \$900 billion was wasted. The main reason is the lack of capacity to implement new technologies into reality and the digital transformation strategy of the administrators that are not suitable for businesses.

Third, lack of initiative in troubleshooting and building new software and technology applications. Most commercial banks currently outsource the consulting units of technology solutions applied in banks due to the shortage of high-quality human resources knowledgeable about technology and big data analysis. Although this gives commercial banks certain advantages such as taking advantage of the contractor's specialized advantages in technology, saving time in research and application development, but when something goes wrong, the bank has to complete the process completely depends on the partner's time to fix and repair without being able to take the initiative.

Fourth, the organizational model and corporate culture are still slow to change. Digital transformation is a long-term process and begins with a change in the cognitive thinking of each individual, especially the head. Commercial banks are now aware that digital transformation is an objective necessity and bank administrators also understand this, but in order to practically implement, change the culture and business model from the traditional method to a digital model, changing the organizational structure towards streamlining, eliminating many manual operations and replacing them with automatic technology, being ready to update and replace old programs, applications and technologies, obsolete; change the mindset of many branches to prefer as many customers to the counter as possible...not something that is easy to change in the short term but needs a long term strategy.

Fifth, in order to perform complex transactions, customers may have to be present in person at bank branches. Specifically, international transactions, loans, and trade finance are still not possible with all digital banking services. Besides, currently, although there is Circular 16/2020/TT-State Bank allowing customers to open an online bank account, the transaction limit is only limited to 100 million VND/month and after that, customers still have to the bank's transaction point to re-verify the information.

Sixth, most Vietnamese commercial banks have not yet built a program/software to evaluate and store separately the data showing the impact of their main business activities (capital mobilization, lending, intermediary payment). Accounting) to the environment and society in a specific, cross-cutting manner but only general statistics from year to year. Actual figures on saving electricity, water, and reducing emissions to the environment mentioned in annual reports are either very general or nonexistent. The issues of ensuring network security and protecting customers' interests, especially when experiencing transaction problems on digital banking channels, have not been mentioned in the annual sustainable development report of commercial banks.

## 5. CONCLUSION

From pointing out some difficulties and challenges in the process of digital transformation associated with sustainable development, the author proposes some recommendations such as:

First, to speeding up the process of completing the legal framework related to digital transformation. The Government, the Ministry of Finance, and the State Bank, as managers, need to coordinate and soon complete the institutions and mechanisms to guide the application of new digital technologies at commercial banks, for example, the online lending process is not yet available while most commercial banks are ready for this operation and are just waiting for the regulatory authority to allow it. In the future, banks will gradually deploy more new 4.0 technologies into practice, and therefore business processes and digital products will be much more advanced and modern than they are today. Therefore, it is very necessary to have a full legal corridor, a clear legal basis from the management agency to promote the digital transformation process of commercial banks to take place faster, and at the same time, create a fair competitive playing field. Strong, equal, complying with the provisions of the law between the Banks.

Second, focus on improving the efficiency of digital transformation. Digital transformation is inevitable, but commercial banks must calculate the economic, environmental and social impacts of the transformation instead of following new technologies by all means without taking into account whether it is appropriate with reality operate at their own banks or exceed the financial capacity and deployment capacity of the system. As a result, it can lead to inefficient wasteful investment, affecting the overall profit of the bank, which is a resource to carry out social security work, support people and businesses. At the same time, the loss of time to repair, old and new changes slows down the bank's digital transformation process, reduces the bank's competitiveness in the market, and affects the sustainable development.

Third, commercial banks need to focus on building a warning system to measuring the impact of business activities on the environment and society. In fact, the business activities of commercial banks do not show a direct impact on the environment and society like manufacturing enterprises. However, commercial banks need to balance between profit growth and positive/negative impacts on the environment and society. For doing this, commercial banks need to build a computer program with the support of new technologies such as big data analysis, artificial intelligence, machine learning... to analyze and evaluate input data ( such as electricity, water consumption, emissions, stationery consumption how much is appropriate, how much is exceeded for timely warning; or calculate the environmental and social impacts of the project to borrow a bank loan to make a decision on whether to lend or not; or to summarize and evaluate the losses experienced by customers and the compensation plan from the bank to have accurate data reported according to social criteria association in the annual sustainability report...)

Fourth, increase awareness of digital transformation and sustainable development for bank staff. Human resources are the core in all activities of the bank, for successful digital transformation, it is indispensable for effective contributions from the whole team. However, at present, the desk culture and traditional working ideas have not changed significantly. Therefore, it is very necessary to raise awareness and improve understanding about digital transformation and the impact of digital transformation on the sustainable development of commercial banks. This helps the digital



transformation process to take place more smoothly and quickly and comes with the civility and modernity of the office environment. In addition, banks need to further encourage the attitude of environmental protection and the active participation and contribution to community activities of their staff through online and offline programs of the Party Ministry and Youth Union.

Sustainable business development is not only the goal of the banking industry but also of the whole economy, especially in the context of Vietnam's opening up and deep integration with economies around the world. In recent years, the Covid-19 pandemic has acted as an important push to make authorities and administrators more drastic in digital transformation when realizing the really important role of digital technologies in the context of digital transformation the situation of supply chain disruptions, people limit contact and work directly... With that awareness, the banking industry, with its pioneering role in digital transformation, has far-reaching impacts on all economic sectors – society, will overcome difficulties and challenges, promote available capacity to fulfill the mission of turning Vietnam into a country of digital government – digital economy – digital society, sustainable development, approaching the level of information technology of countries in the region and the world.

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# FACTORS AFFECTING DIGITAL TRANSFORMATION OF ACCOUNTING MANAGEMENT IN MODERN ENTERPRISES

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**Abstract:** *The goals of businesses in digital transformation typically include the following: increasing market speed, increasing competitive position, promoting revenue growth, increasing labor productivity, and increasing attractiveness and keep customers". Previous research on factors affecting digital transformation efficiency in cost accounting management and EFA analysis results show that factors include: (1) Digital Infrastructure, (2) Manager's Knowledge, (3) Manager's Support, (4) Employee's Skills, (5) User's System, and (6) Outside Expert's Support. Table 4 summarizes the results of testing the multivariable linear regression model with 5 factors that positively affect the efficiency of digital transformation work in the cost accounting management department, with decreasing influence levels*

**Keyword:** *digital transformation, accounting management.*

## 1. WHY DOES ACCOUNTING MANAGEMENT NEED DIGITAL TRANSFORMATION?

Under the influence of the Fourth Industrial Revolution, digital transformation is an unavoidable trend and it is a key question of governments, organizations, enterprises, and consumers worldwide, particularly in light of the present COVID-19 epidemic. Huge changes are occurring in labor productivity, demands, psychology, user habits, and the emergence of new production and business models, demonstrating the significant role and influence of digital revolution on social life and all professions today. Although it had been around since the middle of the XX century, it wasn't until the Fourth Industrial Revolution that digital transformation became widespread. Digital transformation is changing the way of working and production through the integration of digital technologies into the operation of each unit and enterprise in order to change the way of operation, business model and bring new benefits. More efficiency, newer values. Digital transformation is also a change in the culture of an organization or business, requiring constant updating of the new and modern, and accepting failures alongside the successes brought by innovation. Digital transformation in enterprises can be understood as the process of changing old and traditional models into digital businesses, based on new technology applications, such as: Big data, IoT, cloud computing, etc. to change the operating method, working process and labor culture in the enterprise. The goals that digital transformation businesses often aim for include: Speeding up the market, increasing competitive position, boosting revenue growth, increasing labor productivity, expanding the ability

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to attract and retain customers. Vietnam is gradually building and applying a system of policies in line with the current trend of digital transformation in businesses. Besides, also encourage industries and businesses to apply digital transformation, especially digital transformation in the fields of banking, education, communication, etc. At the same time, Vietnam is in the process of building and promoting strongly implement the national digital transformation strategy to orient the digital socio-economic development. On that basis, develop digital transformation strategies in each industry, each field, each enterprise, etc., contributing to promoting the industrialization and restructuring of the economy, in which the State - enterprises - universities. Universities and research institutes play a pivotal role. Digital transformation brings many benefits to businesses. When applying digital transformation, information linkage between departments in the enterprise is connected on the basis of a uniform technology system, helping to solve problems arising in the enterprise as soon as they occur. and the operation is not congested, causing adverse impacts on business operations, such as delay in customer service, reduced sales volume, etc. Participating in the digital transformation process, operators will be able to proactively and easily access reports on business activities. All activities of the enterprise, such as: staff recording sales, personnel changes, customer files to learn about products, etc. will be shown on the business administration software, helping to manage the business effectively and efficiently. more transparent. Digital transformation helps businesses maximize the working capacity of employees in the company. Because, for low-value-added jobs, the system can be automatically performed at no cost to the enterprise, and at the same time, it also helps employees have more time to improve their expertise, expertise, and perform other tasks. other important work. Digital transformation also helps managers easily assess the work quality of each employee through timely reporting data. If you own a digital platform, you will be able to deploy and operate your business efficiently, accurately and with quality. Because digital management and operation solutions will increase efficiency and accuracy in business decisions. At the same time, digital transformation helps businesses improve their competitiveness with other businesses by optimizing administration, costs, profits, quick interaction with customers, customer care and service policies. customers, etc. The digital transformation affects all industries and businesses and in the race towards digitization, only businesses that can adapt and be the most proactive and active can survive and develop.

The development of information technology has completely changed the accounting field, most clearly shown in the method of processing and providing accounting data, which has made great strides compared to the manual accounting process. before. However, the digital transformation of accounting science in general only stops at the financial accounting field through the application of accounting software. As for the management accounting department in Vietnamese enterprises in general, especially the cost management accounting in enterprises in particular, there are still many limitations. Therefore, it is necessary to apply science and technology to be able to convert cost management accounting information from hard text to digitized data to provide accurate, complete and timely information to the stakeholders. manager anytime, anywhere. From there, new managers can make the right decisions, contributing to improving business efficiency and creating competitive advantages for businesses. Given the importance of the digital transformation of the management accounting department of enterprises today, what factors affect the digital transformation of the management accounting department, we will find out. in the next section.

## 2. FACTORS AFFECTING THE DIGITAL TRANSFORMATION OF MANAGEMENT ACCOUNTING.

Findings from previous research on factors affecting digital transformation efficiency in cost management accounting and EFA analysis results show that factors: (1) Digital Infrastructure , (2) Knowledge of managers, (3) Support of managers, (4) Skills of employees, (5) Participation of system users, (6) Support of outside experts.

Regression:

$$KTQT = \beta_0 + \beta_1 CSHT + \beta_2 KTQL + \beta_3 HTQL + \beta_4 KNLD + \beta_5 NDHT + \beta_6 CGBN + \varepsilon$$

In there:

CSHT: Digital Infrastructure

KTQL: Knowledge of managers

HTQL: Management support

KNLD: Skills of workers

NDHT: Involvement of system users

CGBN: Support of external experts

KTQT: Management Accounting

$\varepsilon$ : Noise coefficient  $\beta$ : Regression coefficient

In order to assess whether the model is suitable for the study of influencing factors or not, the author has tested the appropriateness of the model. First, the results of data analysis show that the adjusted R2 coefficient is 45.7% (Table 1), which means that the independent variables in the model (Organizational characteristics, Manager knowledge, Manager support, User involvement) system, the participation of outside experts) explains 45.7% of the variation of the dependent variable (Efficiency of management accounting), the rest is explained by factors not considered in the model. Figure.

**Table 1: Checking the fit of the model**

<i>Model</i>	<i>Coefficient R</i>	<i>Coefficient R<sup>2</sup></i>	<i>Coefficient R<sup>2</sup> corrected</i>	<i>Sai số chuẩn của ước lượng</i>	<i>Durbin-Watson</i>
1	.701 <sup>a</sup>	.500	.457	.49403	1.745
a. Independent variables: CSHT, KTQL, HTQL, KNLD, NDHT, CGBN					
b. Dependent variable: KTQT					

(Source: Data analysis results)

Perform the F-test on the suitability of the overall linear regression model. This test tells us whether the dependent variable is linearly correlated with all the independent variables

$$\text{Hypothesis } H_0 \text{ is: } \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = 0$$

If the hypothesis  $H_0$  is rejected, we can conclude that the independent variables in the model can explain the change of the dependent variable, which means that the model is suitable for the data set of variables.

**Table 2: ANOVA Analysis Table**

Model		<i>Sum of squares</i>	<i>Degree of Freedom</i>	<i>Average squared</i>	<i>F</i>	<i>Sig.</i>
1	Regression	58.234	6	9.710	39.624	.000 <sup>b</sup>
	Residual	58.327	238	.245		
	Total	116.561	244			
a. Dependent variable: KTQT						
b. Independent variables: CSHT, KTQL, HTQL, NDHT, CGBN						

(Source: Data analysis results)

The results from Table 2 show that the F-test is statistically significant with the value Sig = 000 (< 0.05), showing that the regression model is suitable for the collected data set, and the included variables. All are statistically significant at the 5% level of significance, thus rejecting the null hypothesis H0. This means that the independent variables in the model are linearly correlated with the dependent variable, that is, the combination of the independent variables can explain the change in the dependent variable.

Test linear regression model of factors affecting digital transformation of management accounting department in enterprises.

**Table 3 regression results**

Model	Unnormalized coefficients		Normalization coefficient	<i>tstat</i>	Sig.	Multicollinear Statistics	
	Beta	Standard error	Beta			Coefficient Tolerance	Coefficien VIF
Constant	.231	.233		.914	.362		
KTQL	.238	.063	.242	3.741	.000	.504	1.984
NDHT	.159	.066	.161	2.427	.016	.478	2.090
HTQL	.131	.056	.132	2.349	.020	.662	1.510
CSHT	.184	.064	.175	2.870	.004	.566	1.767
TGQL	.040	.070	.038	.575	.566	.493	2.030
CGBN	.214	.064	.181	3.316	.001	.707	1.414
a. Dependent variable: KTQT							

(Source: Data analysis results)

Looking at the table of regression results (Table 3), it shows that there are 5 factors (Digital infrastructure, Manager knowledge, Manager support, External experts support) ) have a positive effect (the coefficient  $\beta$  has a positive value) on the conversion efficiency of cost management accounting in Vietnamese enterprises, with significance level Sig. is very small (< 0.05), however, the manager’s participation variable has a Sig significance level. is 0.566 > 0.05, so this variable does not affect the efficiency of cost management accounting in Vietnamese enterprises. In addition,

the variance exaggeration factor VIF is low ( $< 2$ ), showing that multicollinearity does not occur with independent variables.

Thus, the study can conclude that hypotheses H1, H2, H4, H5 and H6 are accepted. The regression has the following form:

$$KTQT = 0.178 \text{ CSHT} + 0.248 \text{ KTQL} + 0.132 \text{ HTQL} + 0.161 \text{ NDHT} + 0.188 \text{ CGBN}$$

To compare the degree of influence of each independent factor on the efficiency of digital transformation of cost management accounting in Vietnamese enterprises, we base it on the standardized  $\beta$  coefficient. Accordingly, a factor with a larger standardized  $\beta$  weight means that that factor has a stronger influence on the dependent variable. Looking at Table 3, we see that among the 5 factors affecting the efficiency of cost management accounting, the knowledge factor of managers (management accounting) has the strongest influence on management accounting with the coefficient  $\beta = 0.248$ ; followed by the support of external experts (CGBN) with the coefficient  $\beta = 0.188$ ; Next, the digital infrastructure factor has the third strongest influence with the coefficient  $\beta = 0.178$ ; the factor of participation of system users (NDHT) has the fourth strongest influence with the coefficient  $\beta = 0.161$ ; and finally, the management support factor (QL) has the lowest influence with the coefficient  $\beta = 0.132$ .

### **3. CONCLUSION ON RESEARCH ON FACTORS AFFECTING DIGITAL TRANSFORMATION IN VIETNAMESE ENTERPRISES.**

The overall objective of this study is to determine the factors affecting the application of digital transformation in cost management accounting, to measure the extent to which these factors affect the digital transformation work of the department. cost management accounting in Vietnamese enterprises. From the research results, the author draws the following conclusions:

On the basis of inheriting previous studies and consulting experts, the authors designed the survey in the form of a 5-level Likert scale with a range of values from 1 to 5 (1 – Complete). totally disagree, 2 – Disagree, 3 – Neutral, 4 – Agree, 5 – Totally agree). The survey was sent to 550 directors/deputy directors, chief accountants, general accountants and accountants working in Vietnamese enterprises. The results obtained were 452 valid votes used for data entry and data analysis.

The results of testing the reliability of the scale through Cronbach's Alpha coefficient, all scales ensure reliability with Cronbach's Alpha coefficient greater than 0.6 and the total correlation coefficient greater than 0.3. Therefore, all observed variables of the scale are kept for the next steps of analysis.

The results of exploratory factor analysis (EFA), out of 24 observed variables of the independent component, 6 independent variables were extracted, 6 observed variables of the dependent component also extracted 1 correct dependent factor. as our original proposed model.

The results of testing the multivariable linear regression model with 5 factors positively affect the efficiency of digital transformation work in the cost management accounting department with the influence level in order from large to small. are summarized in Table 4 below. Particularly, the participation factor of managers is not statistically significant because  $\text{sig.} > 0.05$ , however, when testing the correlation, it is found that this factor has a correlation with the effectiveness of digital transformation in the management accounting department.

**Table 4: Level of impact of factors on the effectiveness of digital transformation of cost management accounting in Vietnamese enterprises**

No	Factors	Level of impact
1	Manager's knowledge	$\beta = 0.248$
2	Support from outside experts	$\beta = 0.188$
3	Organizational characteristics	$\beta = 0.178$
4	Involvement of system users	$\beta = 0.161$
5	Manager's support	$\beta = 0.132$

*(Source: Compiled by the group of authors)*

The results of this study are the basis for the author to propose recommendations to improve the efficiency of the digital transformation of cost management accounting departments in order to improve the quality of accounting information provided to stakeholders. mandarin.

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# **SOLUTIONS TO STRENGTHEN TREATMENT OF DOUBLE TAXATION ON INCOME IN THE CONTEXT OF GLOBALIZATION IN VIETNAM**

**MBA. Nguyen Tien Kien<sup>1</sup>**

**Abstract:** *The double taxation causes many problems such as trade barriers (does not encourage cross-border investment), is the cause leading to the violation of tax obligations, tax evasion ... of the persons involved. On the basis of analyzing the characteristics of international integration, the trend of tax reform in the world and the impact on the treatment of double taxation in Vietnam by 2030, as well as considering the basic views on the treatment of double taxation in Vietnam in the near future. This article proposes groups of solutions to strengthen treatment of double taxation on income in the context of globalization in Vietnam as follows: (i) Solutions to complete the legal framework; (ii) Solutions to improve organizational structure; (iii) Solutions in the negotiation and signing of Double Taxation Agreements; (iv) Other solutions.*

**Keywords:** *Tax, Double taxation, Income Tax*

## **1. INTRODUCTION**

With the globalization of the economy, the increasing investment activities abroad, the movement of labor from one country to another is increasing, the double taxation often occurs when two or more countries are at the same time reserve the right to tax an income of the same taxpayer according to two main principles (residence principle and source principle). This is because a company or individual, is a resident of one country, but operates and earns income in another country (such as offshore investment companies, or providing services and goods abroad; or individuals earning income from an employment, investing in a number of commercial activities, ... abroad). The double taxation causes many problems such as trade barriers (does not encourage cross-border investment), is the cause leading to the violation of tax obligations, tax evasion ... of the persons involved. To deal with the problem of double taxation on the incomes of the above-mentioned persons, countries often sign a bilateral tax agreement, also known as an Agreement for the Avoidance of Double Taxation and the Prevention of Fiscal Evasion with respect to Taxes on Income (and on Capital) (often referred to as the Double Taxation Agreement or DTA), which principally agrees on the division of the taxing rights of each Contracting State on certain amounts of the income of the related persons. In the process of opening up the economy, in order to attract investment and develop trade, Vietnam has negotiated and signed many Double Taxation Agreements with other countries and territories. The first Double Taxation Agreement

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that Vietnam signed was with Australia in 1992. As of July 27, 2022, Vietnam has signed Double Taxation Agreement with 80 countries and territories around the world. Among them, there are 76 Agreements that have come into effect, contributing to creating a legal basis and a stable and transparent investment environment, attracting foreign investors to do business in Vietnam as well as promoting Vietnamese enterprises to invest abroad. Compared with other countries in the world, Vietnam's Double Taxation Agreement network is relatively wide.

## **2. GENERAL THEORETICAL BASIS AND OVERVIEW OF RESEARCHES RELATED TO DOUBLE TAXATION ON INCOME**

### **2.1. General theoretical basis for double taxation on income**

The fact that countries simultaneously exercise the privilege of taxation is based on different principles (source principle, residence principle, source and residence combination principle) as well as the design of residency regulations, different sources in the domestic law of each country resulted in tax duplication. [11, 17] In international tax relations, such tax duplication is called international double taxation and is defined as follows:

Tax duplication or double taxation is where income tax is paid twice on the same income during the same tax period. In the context of international trade, double taxation is the taxation of two or more countries/territories on the same income, assets, or financial transactions of a taxpayer who is a resident of one country but whose income, assets or financial transactions arise in another country. Double tax liability can be mitigated in a number of ways, for example, a country/territory can unilaterally exempt or reduce tax on foreign-sourced income; signing tax treaties with other countries/territories to avoid double taxation.

### **2.2. Overview of researches related to double taxation on income**

In this section, the author will present some overviews of relevant research situation at home and abroad related to double taxation on income. As follows:

The project "Expanding the tax base and preventing the erosion of state budget revenues in the period from 2020 to 2025" promulgated together with Decision no. 276/QĐ-BTC dated February 28, 2020 of the Minister of Finance. The project gives an overview on expanding the tax base and preventing the erosion of state budget revenues; Assessing the current situation, forecasting the ability to expand the tax base and prevent the erosion of state budget revenues in the three years 2016-2018, the causes affecting the revenue results in the three years 2016-2018; From there, propose solutions and organize the implementation of solutions to expand the tax base and prevent the erosion of state budget revenue. [1]

The article "Agreement for the avoidance of double taxation in Vietnam: Issues raised" (2015) by Dr. Le Thi Thanh Huyen posted on the website of the Ministry of Finance ([www.mof.gov.vn](http://www.mof.gov.vn)). The article outlines a number of reasons leading to the situation that the results of the signing of agreements for the avoidance of double taxation in Vietnam have only stopped at the quantity and the quality is still not as expected. [5]

Master Phan Le Nga (2020) has an article on "Evaluating the Agreement for the avoidance of double taxation of Vietnam in the process of international economic integration" posted on the website

of Industry and Trade Magazine ([www.tapchicongthuong.vn](http://www.tapchicongthuong.vn)). The article evaluates the agreements for the avoidance of double taxation of Vietnam in the process of international economic integration in the period of 1992 - 2018, thereby proposing some policy suggestions for the signing and implementation of the agreement for the avoidance of double taxation in Vietnam in the near future. [7]

Bui Viet Hung (2020), “International tax cooperation in the current conditions of Vietnam”. Thesis of Doctor of Economics, Academy of Finance. The thesis has systematized, perfected, supplemented and developed theoretical issues on international cooperation on taxation. Assessing the status of international tax cooperation activities in Vietnam in the period of 2012 - 2018 and its impact on tax administration in Vietnam. Thereby, proposing solutions to promote Vietnam’s international tax cooperation activities in the new integration conditions until 2025. [2]

Sol Picciotto (1992) with a book titled “International Business Taxation - A Study in the Internationalization of Business Regulation”. The author has pointed out that the origin of double taxation is due to conflicts and differences in tax policies between countries leading to pressure from businesses to eliminate double taxation. Since then, a system of tax cooperation between countries was born based on three factors. First, national tax systems accept to limit the application of domestic law provisions in a certain extent. Second, the formation of a network of bilateral tax agreements, based on the Model Tax Agreements, tailored to the economic and political circumstances of each Agreement partner. The third factor is the growth of an international community of financial professionals. [16]

Klaus Vogel (1986) with his research work on “Double Taxation Conventions and Their Interpretation”. The work researches important aspects and issues that arise when interpreting Double Taxation Agreements. One of the goals of bilateral tax agreements is to address and reduce the incidence of double taxation. However, the effectiveness of the treaty approach depends on a common and workable interpretation of the agreement’s provisions. [13]

Authors group Julia Braun and Martin Zagler (2014) with a scientific article titled “An Economic Perspective on Double Tax Treaties with(in) Developing Countries”. This article applies econometric methods to data analysis in Double Taxation Agreements. The focus of the analysis lies on developing economies. The analysis results of the article have drawn some important conclusions, such as: the decisive factors that increase the likelihood of countries signing an agreement for the avoidance of double taxation are market size and market search. (through foreign direct investment) in the case of agreements between developed and developing economies; geographical factors can also be taken into account, and geographical proximity clearly increases the probability of concluding an agreement; The motivation for signing a tax agreement is analysed based on the balance between the possibility of increasing FDI inflows and the possibility of loss of CIT revenue... [12]

Through the above analysis, it can be said that although in Vietnam and internationally, there have been researches on double taxation on income. However, at present, the gaps of these studies are not linked to the recent international tax reforms adopted by the countries participating in the OECD/G20 Inclusive Framework on BEPS (IF) and tax reform trends in the world have an impact on the treatment of double taxation. Therefore, the content of this article focuses on solutions to strengthen treatment of double taxation on income in the context of globalization in Vietnam.

### 3. RESEARCH METHODS

- *Method of collecting and processing information*: the author has collected primary documents and secondary documents, including: Summary report on tax work for the period 2016-2021 of the General Department of Taxation (International Taxation Department), International tax reform report of the IF, scientific articles, domestic and foreign news articles... are related to the treatment of double taxation on income. These documents have been processed by the author to:

+ Systematize the results that have been studied before, discover the issues that have been agreed upon, and the gaps that need to be researched to deepen the research and find out new points of the issue.

+ Searching for scientific bases and evidence data as the basis for the formation of arguments and demonstrations both in theory and in practice.

+ Draw conclusions according to the author's own approach.

- *Analytical methods* are used to analyse data related to the treatment of double taxation on income for the period 2016-2021; analysing a number of situations related to Vietnam's economy and society in the context of the digital economy and extensive international integration to see the challenges to dealing with double taxation in the coming period.

### 4. RESEARCH RESULTS

#### 4.1. Features of international integration, tax reform trends in the world and impacts on the treatment of double taxation of Vietnam by 2030

The socio-economic situation of our country in 2021 takes place in the context that the world economy tends to recover when countries promote vaccination programs against Covid-19 but the emergence of new strains slowing down the economic recovery. [8] From 2021 onwards, in the new international context and new integration conditions according to the commitments that Vietnam has signed and the roadmap to implement the multilateral and bilateral commitments that Vietnam has signed, international integration activities have some outstanding features affecting tax policy and the treatment of double taxation on income of Vietnam. As follows:

*Firstly*, from 2021 onwards, according to the roadmap committed with many major trading partners such as ASEAN, WTO and other partners signed with ASEAN such as Japan, Korea..., Vietnam will enter the final stage of the tariff reduction roadmap for goods that have not been cut in the previous stages. [9] Strengthening and improving the efficiency of the treatment of double taxation on income is one of the factors to help prevent tax evasion and tax avoidance, thereby contributing to the fight against tax loss, ensure revenue for the state budget in terms of integration.

*Second*, implementing the Party's policy of continuing to promote external economic relations for deeper integration into the world economy, in the coming years, Vietnam will continue to negotiate and sign trade and investment agreements with countries that have not signed trade and investment agreements. At the same time, consider raising the level of trade and investment relations with the countries that have signed the agreement. This requires specific content on international negotiations on tariff reduction, other tax commitments and adjustments to the

domestic tax system should be deeper, requiring the treatment of double taxation on income must be renewed in terms of content and method of organizing implementation with tighter constraints, with a more comprehensive management approach, with better coordination among state agencies.

*Third*, international integration in the coming years and decades will be strongly affected by the fourth industrial revolution. The essence of the industrial revolution 4.0 is based on digital technology, the internet and integrates all smart technologies to optimize production processes and methods. In particular, the direct requirement for the treatment of double taxation on income is to amend and supplement double taxation agreements to ensure the ability to cooperate in combating tax evasion for cross-border digital services and other forms of tax avoidance related to the determination of the permanent establishment and the source of income for the business activities of multinational companies with the help of digital services.

*Fourth*, sustainable development, creativity and response to global challenges are important contents of international integration in the new period. This is also the trend of transitioning to a sustainable and innovative model, green growth, from economic thinking, development thinking, approach to economic, political, social and security management at all levels. This puts higher requirements on the tax system in general and the process of adjusting tax policy and dealing with double taxation on income in the new situation.

From the points of international integration mentioned above, in the coming time, the trends in the treatment of double taxation and impacts on Vietnam are as follows:

*Firstly*, strengthen exchange of information and cooperation in combating tax evasion through international forums and bilateral and multilateral cooperation activities. For example: the Asian Tax Forum (held annually alternately between countries), the Forum on Implementation of Measures to Counter Base Erosion and Profit Shifting (BEPS), etc. This trend creates opportunities for Vietnam to expand and improve the efficiency of information exchange and cooperation in the treatment of double taxation on income with other countries in the world.

*Second*, renegotiate to amend and supplement the contents of the Double Taxation Agreement in accordance with the action plan on base erosion and profit shifting (BEPS). [14]

*Third*, new negotiations for a number of provisions of the Double Taxation Agreement, including: prevention of tax treaty abuse (change in the preamble of the tax treaty, add more content on Article 1 (Persons covered)), add new Article 29 (Entitlement to benefits), Preventing the artificial avoidance of permanent establishment status, etc.

*Fourth*, sign and organize the implementation of the Multilateral Instrument (MLI), the Convention on Mutual Administrative Assistance in Tax Matters (MAAC) to limit and prevent transnational tax frauds, contribute to improve taxpayers' compliance with tax laws. [15]

*Fifth*, strengthen the negotiation, signing and implementation of the Mutual Agreement Procedure (MAP) and Advance Pricing Arrangement (APA) in order to thoroughly resolve the double taxation on income in case the unilateral treatment process of the tax authority does not meet the target of the treatment of double taxation on the taxpayer's income.

#### **4.2. The treatment of double taxation on income must be consistent with the external views of the Party and the State**

Since the treatment of double taxation on income is an integral part of Vietnam's international tax cooperation activities with other countries, the treatment of double taxation on income must be consistent with the viewpoint of foreign policy of the Party and the State, thereby, jointly aiming to realize the goal of Vietnam's international tax cooperation activities, ensuring uniformity in the performance of tasks of the whole political system. Accordingly, the motto, content, and method of organizing the treatment of double taxation on income must thoroughly grasp the point of view of "Diversification and multilateralization in foreign relations; proactively and actively integrate into the world; is a friend, a reliable partner and a responsible member of the international community". This point of view is concretized in the treatment of double taxation on income as follows:

*Firstly*, the treatment of double taxation must ensure compliance with international treaties on taxation to which Vietnam is a member and in line with the Party and the State's external views.

*Second*, the treatment of double taxation on income must contribute to promoting the elevation of relations between Vietnam and countries that have signed bilateral and multilateral trade and investment agreements, double taxation agreements.

*Third*, promote the initiative and creativity in the treatment of double taxation on income, develop and review, adjust, harmonize and perfect the tax policy system in line with international practices, Vietnam's economic situation and improve the efficiency of information exchange with tax authorities of other countries in order to best solve the problems posed in tax administration in the new integration conditions such as cross-border e-commerce transactions, base erosion and profit shifting, etc. Proactively propose principles and solutions to the treatment of double taxation on income.

- Modernize the treatment of double taxation on income in the direction of maximizing the achievements of the fourth industrial revolution.

The fourth industrial revolution affects the way of doing business as well as the way of business management of the tax administration object, impact on tax administration methods of tax authorities, affect the way tax authorities interact with taxpayers, the way of interaction and the content of the treatment of double taxation on income. These impacts are multidimensional, creating both opportunities and challenges. Therefore, it is necessary to actively electronicize the treatment of double taxation on income to make the most of the opportunities created by the fourth industrial revolution, as well as limit its negative effects.

- Better promote the role of the treatment of double taxation on income in tax administration

The treatment of double taxation on income is one of the duties of the tax authorities. This task is assigned to help tax authorities fully qualified to perform tax administration functions. The content of the treatment of double taxation on income shows that if the organization performs well, the treatment of double taxation on income can contribute more to improving the efficiency of tax administration.

- Ensure publicity and transparency

Publicity and transparency are both a requirement and a condition for effective law implement. This is also a very important factor in tax administration.

Ensuring publicity in the treatment of double taxation on income is firstly reflected in the disclosure of regulations on the content and implementation process as a basis to enhance the taxpayer's understanding on the organization of law implement. Transparency requires that the provisions on the treatment of double taxation on income be clear, simple, easy to understand and worded so that it can only be understood in a consistent way, not in many different ways. The legal understanding of the persons involved in the process of treatment of double taxation on income is the most basic condition for effective tax administration. In fact, there have been many cases where the lack of information and understanding about the contents of the tax legislation and the way in which the law is organized has led to errors and be collect taxes arrears in the course of tax law implementation.

- Ensure compliance and suitable with international standards and practices

International economic integration creates conditions to promote economic development and expand economic cooperation relations for each country. At the same time, the integration process also requires each country to have changes in management regulations, as well as management standards in line with international commitments and practices. The implementation of international tax commitments and practices facilitates the management activities of State agencies to integrate with the management system in the world. Compliance with international practices also facilitates the process of treatment of double taxation on income of foreign contractors.

## 5. DISCUSSION AND CONCLUSION

Based on the theoretical foundation, the characteristics of international integration, the trend of tax reform in the world and the impact on the treatment of double taxation on income of Vietnam until 2030, as well as consider the basic views on the treatment of double taxation in Vietnam in the coming time, the author proposes some solutions to strengthen the treatment of double taxation on income in the context of globalization in Vietnam as follows:

### *(i) Solutions to complete the legal framework*

Double Taxation Agreements are negotiated on the basis of Models (UN, OECD, and model of Vietnam), therefore, the Agreements all have the same general provisions. In addition to those similar provisions, each Agreement has its own provisions, leading to some differences between the Agreements. For example, the tax rate in the source country on a given type of income, the scope of the permanent establishment (PE), etc. Among those differences, there are a few that stand out, namely:

*Firstly*, the issue of the concept of PE. In some signed tax agreements of Vietnam, the concept of PE does not include construction PE, installation PE, furnishing of services PE (usually clause 3(a) or 3(b) of Article 5) or providing that the existence of a fixed base in a Contracting State solely for the purpose of delivering the goods of a resident of the other Contracting State shall not constitute PE.

*Second*, regarding to tax exemption for interest on loans from the Government. In the Article on interest in many current Agreements (usually Article 11), there are provisions on tax exemption in the source country for interest from loans of the Government or organizations or agencies of the Government.

*Third*, regarding to the alienation of property provision (usually Article 13 – Gains from the alienation of property).

On the basis of the author's synthesis and analysis, a number of tax agreements are proposed to be prioritized for renegotiation, namely: the Netherlands, France, Italy, the UK, Canada, China, India, Australia, the Republic of Korea, Indonesia, Saudi Arabia, Turkey, Austria, Czech Republic, Belgium, Denmark, Norway, Finland, Ireland and Spain.

\* Developing a set of negotiation principles and a double taxation agreement model for Vietnam in the new context

Essentially, a set of double taxation agreement negotiating principles is designed and formulated to achieve the material outcomes which a country wants to achieve when negotiating double taxation agreements. At the same time, on the basis of the principles that have been introduced after completing the development of a set of negotiation principles, it can develop a corresponding double taxation agreement model to reflect the choices made when developing a set of negotiation principles for each country. In which, the double taxation agreement model shows all the different provisions of the double taxation agreement that the country wishes to achieve in the double taxation agreements that will be signed in the future.

#### ***(ii) Solutions to improve organizational structure***

The tax sector needs to review and evaluate the effectiveness of the new management model, thereby continuing to perfect the organizational model of the tax administration apparatus according to functions combined with management by groups of taxpayers, especially foreign contractors subject to tax exemption, reduction and refund under double taxation agreements. In addition to researching and developing policies to negotiate and sign double taxation agreements, the General Department of Taxation (the Large Taxpayers Department in coordination with the International Taxation Department) directly manages and guides large enterprises having transactions with foreign partners subject to double taxation agreements. The Province Tax Offices shall concentrate on performing the function of directing, guiding, inspecting and examining the treatment of double taxation on income of foreign contractors having tax obligations in their respective management areas. Taxpayer grouping for management helps tax authorities to apply systems to provide services to taxpayers and handle double taxation of income in a favorable way.

The General Department of Taxation should soon issue a process for handling tax treaty application dossiers to apply throughout the tax industry. At the same time, to build a National Support Center for taxpayers on issues related to double taxation on income, creating favorable conditions for taxpayers and local tax authorities. Additional personnel with experience in the treatment of double taxation on income for the National Support Center by phone.

#### ***(iii) Solutions in negotiation and signing of double taxation Agreements***

New negotiations for a number of articles of the double taxation Agreement include: Regulations on prevention of tax treaty abuse, preventing the artificial avoidance of PE status, and supplementing regulations on determining PE for digital economic transactions, Expanding the scope and objects of information exchange for tax administration and dealing with double taxation on income (for example, exchange of information with both non-residents and indirect taxes, such

as VAT), Support in tax collection between partner countries that have signed double taxation agreements.

***(iv) Other solutions***

On February 9, 2022, Vietnam officially signed the Multilateral Convention to Implement Tax Treaty Related Measures to Prevent Base Erosion and Profit Shifting (Multilateral Instrument or MLI) and became the 99<sup>th</sup> member to join this Convention. In order for MLI to really play its role, it is necessary to perform the following tasks:

*Firstly*, complete the procedures to submit to the Government and the President for approval of the effect of MLI in accordance with the provisions of the Law on International Treaties no. 108/2016/QH13.

*Second*, the Ministry of Finance/General Department of Taxation studies and issues Circulars or documents guiding the implementation of bilateral tax agreements that Vietnam has signed within the scope of the MLI. Give specific situations, examples and how to apply the modifications. The content of the guide focuses on: (1) Combating tax avoidance through financial instruments; (2) Regulations on agreement abuse; (3) Preventing the artificial avoidance of PE status; (4) Strengthening dispute settlement; (5) Arbitration mechanism.

*Third*, organize seminars (possibly online) to disseminate the contents of MLI as well as the amendments related to the bilateral double taxation agreements. Participants are officials of the General Department of Taxation and Province Tax Offices involved in the process of treatment of double taxation.

*Fourth*, improve the efficiency of organization and implementation of DTAs

DTAs are signed with two top important goals: (i) Avoiding double taxation on incomes and assets related to investment and business activities of organizations and individuals in different countries; (ii) Preventing tax avoidance and tax evasion for cross-border investment and business activities. Whether these goals are achieved in reality or not depends on the effectiveness of the treatment of double taxation under DTAs with the basic focuses on: (i) Determining the right taxpayers to implement tax liability as PE of a foreign resident or as a subject to tax on the basis of the source of income; (ii) Determining the right subjects eligible for tax exemption or reduction under DTAs; (iii) Apply measures to avoid double taxation and deal with obstacles in the application of DTAs; (iv) Exchange of information about taxpayers to properly determine tax obligations, prevent tax avoidance, tax evasion, tax fraud; (v) Support for mutual tax collection between tax authorities of different countries.

*Fifth*, accelerate the Mutual Agreement Procedure (MAP)/ Advance Pricing Arrangement (APA) negotiations and ensure the rationality and enforceability of the MAP/APA agreements.

MAP/APA is an effective tool to help the tax authorities of the Contracting States to completely handle the situation of double taxation or may lead to double taxation when the unilateral double taxation treatment by a tax authority is not actually benefits to taxpayers. However, in fact, the progress of negotiation and signing of MAP/APA is still slow.



*Sixth*, strengthening international exchange of expertise and scientific research on the treatment of double taxation

Professional exchange and international scientific research on handling double taxation have achieved many important results, but there are still limitations that need to be overcome, especially in the context of international integration in the fourth industrial revolution.

*Seventh*, actively organize and participate in international tax forums

International tax forums are one of the dynamic forms of international cooperation and bring many benefits to both tax authorities and taxpayers. Therefore, strengthening the organization and participation in international tax forums will have many positive effects in the treatment of double taxation on income.

*Eighth*, the General Department of Taxation assigns the International Taxation Department to assume the prime responsibility for, and coordinate with the Tax College in, regularly organizing training courses, professional training and sharing experiences on the treatment of double taxation for Province tax offices and Large Taxpayers Department. Training classes are held annually, including basic training and advanced training (thematically, focusing on issues that often arise at each Province Tax Office). In order to improve professionalism, it is necessary to encourage Province Tax Offices to set up a Team/Group to treatment of double taxation on income. Depending on the organizational structure of each Province Tax Office, the Team/Group dealing with double taxation on income can be independent or flexible (established according to each specific and complicated dossier).

Vietnam's integration process is going deeper and deeper, as shown by the fact that Vietnam has signed more and more bilateral and multilateral agreements, as well as participated more and more in international and regional organizations to promote international cooperation and attract foreign investment. In that context, in order for businesses and individuals with investment and business activities abroad and vice versa to really benefit from the bilateral and multilateral agreements that Vietnam has joined/signed, the treatment of double taxation on income plays a very important role.

On the basis of theoretical issues on the treatment of double taxation on income in the context of globalization, this article has analysed the characteristics of international integration, the trend of tax reform in the world and the impact on the treatment of double taxation in Vietnam by 2030. To serve as a basis for proposing solutions to strengthen the treatment of double taxation in Vietnam, this article has raised and analysed 5 basic points of view on the treatment of double taxation in Vietnam in the near future.

From there, this article proposes 4 groups of solutions to strengthen the treatment of double taxation on income in the context of globalization in Vietnam. The solutions to treatment of double taxation are proposed on the basis of compliance with world standards, closely following the orientations and objectives of the tax sector's modernization goals approved by the Ministry of Finance and the Prime Minister, stemming from the actual situation of the treatment of double taxation at the Province Tax Offices and the General Department of Taxation. In which, the application of modern tax management methods is a new approach in the current context and in the future.

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# DIGITAL ECONOMY AND SOME SOLUTIONS TO DEVELOP THE DIGITAL ECONOMY IN VIETNAM

Dr. Duong Thi Quynh Lien<sup>1</sup>, Dr. Nguyen Phi Hung<sup>2</sup>

**Abstract:** *Developing the digital economy is an inevitable trend of countries around the world and Vietnam is no exception to that trend. For Vietnam, the future for economic growth lies in making the most of digital technologies and digitizing the economy. Therefore, Vietnam needs to accelerate the development and application of new technologies to develop the digital economy. The Fourth Industrial Revolution and the emergence of the Internet of Things (IoT) mark a remarkable development in the use of data in activities of social life, especially in the field of manufacturing business. In that context, the digital economy is becoming an important feature and development trend, researched, applied and developed by many countries. For Vietnam, developing the digital economy is a great opportunity to close the development gap. Recognizing the importance of the digital economy, over the years, the Party and State have paid much attention to and have many policies and solutions for the implementation of the Industrial Revolution 4.0 and the transformation to the digital economy. The article discusses the current situation and proposes some solutions to develop the digital economy in Vietnam*

**Keywords:** *economy, digital economy, development, economic development, Vietnam*

## 1. INTRODUCTION

The Industrial Revolution 4.0 and the emergence of the Internet of Things (Internet of Things: IoT) mark a remarkable development in the use of data in activities of social life, especially in the field of manufacturing. business. In that context, the digital economy is becoming an important development feature and trend, researched, applied and developed by many countries. For Vietnam, developing the digital economy is a great opportunity to close the development gap

## 2. OVERVIEW OF THE DIGITAL ECONOMY

The emergence of Industry 4.0 with the trend of digitization or digital transformation is really appearing strongly in all fields. The focus of Industry 4.0 is digital transformation, integration of digitization, connectivity or hyper-connectivity, and intelligent data processing.

Digital technology is applied in all fields and economic sectors, from industry, smart agriculture to digital services; from production to distribution and circulation of goods to supporting infrastructure such as transportation, logistics, finance, banking, etc. Therefore, the content of the digital economy gradually coincides with that of the digital economy. content of the economy.

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In general, the Digital Economy is an economy that uses digitized knowledge and information to guide and improve resource allocation, productivity, and high-quality economic growth. An economy that encompasses the business and management models that create digital products and services, or support the delivery of digital services to governments, businesses, and citizens.

Digital economy development is the convergence of many new technologies, such as: big data, cloud computing, Internet of Things - IOT, blockchain - Blockchain, Artificial Intelligence AI, 5G wireless network. New technology allows humans to handle massive workloads and make smarter decisions. This also means that big data analysis creates a new level in digital economic development.

In essence, these are organizational models and operating modes of the economy based on the application of digital technology. Applications of the digital economy can be seen every day, including: cross-border e-commerce, online retail, common digital currency, digital industry platform, online learning, online medical examination, working Remote, transportation, delivery, online advertising... are also integrated with digital technology to meet the convenience needs of people.

### **3. THE CURRENT SITUATION OF THE DIGITAL ECONOMY IN VIETNAM**

Developing the digital economy is considered by many countries as an inevitable trend of the industrial revolution 4.0. In recent years, the digital economic model has also been developing in Vietnam, making a great contribution to the overall economic development of the country. Most especially, the models that provide transport sharing services, accommodation sharing, online shopping, e-wallets, pay TV services...

There are already many applications that can be installed on phones, allowing users to call cars, motorbikes, deliver - receive goods, book flight tickets, order food, rent accommodation, hire tutors, rent maids, hire services to repair household appliances, etc., even users can connect home health care doctors. Vietnam has the advantage of a large population, a stable political system, and is a latecomer, so it has more potential for the digital economy to develop.

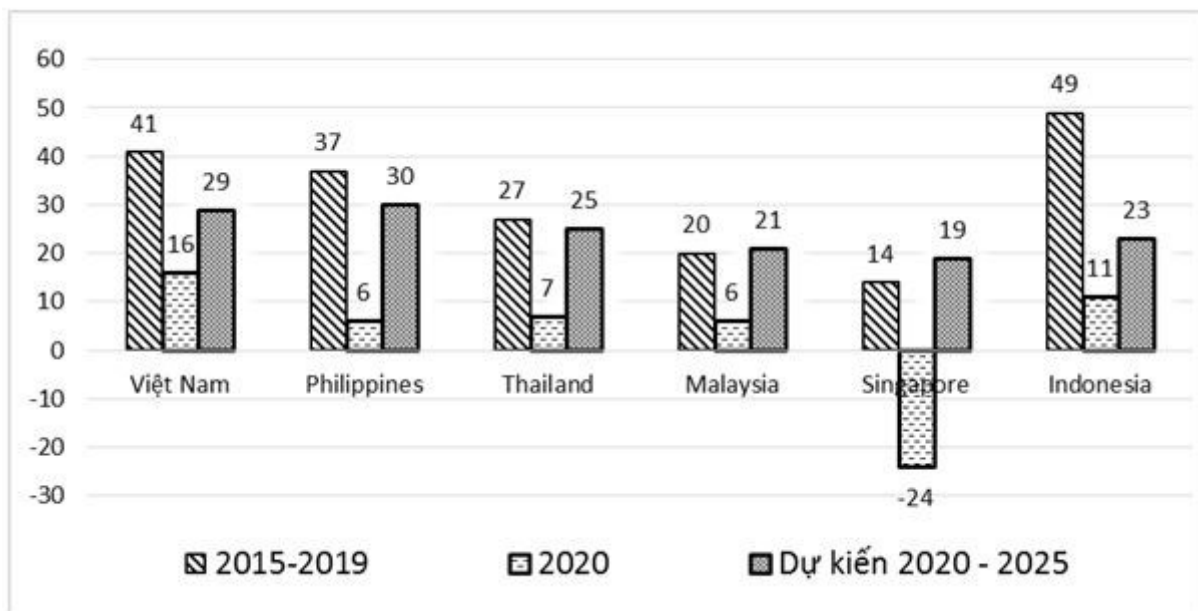
Recognizing the importance of the digital economy, over the years, the Party and State have always paid attention and soon had many policies and solutions to implement the Industrial Revolution 4.0 and transition to the digital economy. These policies are expressed in documents such as: Resolution No. 36-NQ/TW, dated July 1, 2014 of the Politburo on promoting information technology development to meet the requirements of sustainable development and international integration; Resolution No. 41/NQ-CP dated May 26, 2016 on tax incentives to promote the development and application of information technology and Directive No. 16/CT-TTg dated May 4, 2017 on strengthening capacity to approach the Industrial Revolution 4.0.

In August 2018, the National Committee on E-Government was established with the Prime Minister directly serving as the Chairman of the Committee; Resolution No. 52/NQ-TW on a number of guidelines and policies to actively participate in the Industrial Revolution 4.0; Resolution No. 52-NQ/TW sets a target that by 2025 Vietnam's digital economy will reach 20% of GDP; Decision No. 749/2020/QĐ-TTg of the Prime Minister: Approving the "National Digital Transformation Program to 2025, with orientation to 2030".

Accordingly, Vietnam is one of the few countries in the world to soon issue a national digital transformation strategy, a strategy for a digital country. With the very high goals set out by the Program, it is necessary to strive fiercely to achieve it, such as: By 2025, the digital economy will account for 20% of GDP; by 2030 account for 30% of GDP; 50% of the population has an electronic payment account by 2025 and by 2030 80% of the population.

The 13th Party Congress unanimously approved the Resolution of the Congress, clearly affirming and accelerating the research, transfer and application of scientific and technological advances and innovation, especially the achievements of the Communist Party of Vietnam. Fourth Industrial Revolution, implement national digital transformation, develop digital economy, improve productivity, quality, efficiency and competitiveness of the economy.

**Figure 1: Digital economy growth rate of Vietnam and some Southeast Asian countries (%)**



Source: The report “Southeast Asia Digital Economy”

According to the report “Southeast Asia Digital Economy 2020”, Vietnam’s digital economy growth rate has always grown at double digits, leading the region along with Indonesia. The digital economy in Vietnam has increased from 3 billion USD in 2015 to 12 billion USD in 2019 and 14 billion USD in 2020. It is expected that by 2025, it will break through to 52 billion USD, including the following fields: E-commerce electronic commerce, online travel, online communication and ride-hailing technology.

Over the past 10 years, Vietnam’s digital economy has rapidly developed both in terms of infrastructure and business market. With a population of nearly 100 million people, Vietnam is considered as one of the countries with a good digital economy development rate in the ASEAN region. Vietnam has recorded the emergence of digitization trends in many fields and economic sectors, from commerce and payment to transport, education, and healthcare... Up to now, Vietnam has about 64 million internet users. On average, Vietnamese spend 3 hours and 12 minutes using the internet per day on mobile devices such as smartphones and according to the regional

average, usage is concentrated in the group of social networking and communication applications. communications (52%), video applications (20%) and games (11%), and applications for work.

According to the report “Southeast Asian Digital Economy 2019” published by Google, Temasek and Bain on October 3, 2019, Vietnam’s digital economy in 2019 was worth 12 billion USD (contributing 5% of national GDP). in 2019), which is 4 times higher than the value of 2015 and is expected to reach 43 billion USD in 2025, with the fields of: E-commerce, online travel, online communication and ride-hailing Vietnam’s digital economy, along with Indonesia, is leading in growth in Southeast Asia with an average of 38% per year compared to 33% for the whole region since 2015. Hanoi and Ho Chi Minh City is 2 out of 7 major cities developing the region’s digital economy. investment from 2018 to the first half of 2019 compared to a total value of \$350 million in 2018 and \$140 million in 2017.

In September 2019, the Politburo issued Resolution No. 52-NQ/TW, setting a target that by 2025, Vietnam’s digital economy will reach 20% of GDP, developing a Vietnamese digital technology business community. Strong male. On June 3, 2020, the Prime Minister signed and promulgated Decision No. 749/QD-TTg approving the “National Digital Transformation Program to 2025, with a vision to 2030” with the goal that Vietnam belongs to the group. 50 leading countries in e-government, related to the development of the digital economy, improving the competitiveness of the economy, the goal by 2025 is that the digital economy accounts for 20% of GDP; the proportion of the digital economy in each industry or field shall reach at least 10%; by 2030, the digital economy will account for 30% of GDP; The proportion of digital economy in each industry, field reaches at least 20%

The Covid-19 pandemic has partly accelerated the process of developing the digital economy. Vietnam has developed many online methods in operating, working and training of management agencies, enterprises, schools, etc. Currently, the most popular among businesses is digitalization in store and process data from production to bringing products to market. Vietnam’s 5G network is also being tested, expected to begin deployment from 2021. In Vietnam, Internet service charges are moderate, and fixed broadband internet service charges are the lowest in the region. Asia Pacific. Along with that, e-commerce and non-cash economic transactions are increasingly developing in Vietnam, creating opportunities for businesses to promptly grasp and apply digital economy tools as well as digital economy processes. implementation of e-Government is deployed more quickly and drastically.

#### **4. ADVANTAGES AND DISADVANTAGES OF DEVELOPING THE DIGITAL ECONOMY IN VIETNAM**

##### **4.1. Advantages**

*Firstly*, the Vietnamese Government has had many policies, showing great determination in orientation, action and taking advantage of all opportunities of Industry 4.0 to promote the development of the digital economy in Vietnam.

*Second*, Vietnam has a high proportion of young population, providing human resources for the development of the digital economy in Vietnam. With the advantage of a young population, consumption patterns, and a relatively good background in mathematics and information

technology, Vietnamese people love and quickly approach new technologies, which is the key to success. promoting the development of the digital economy in Vietnam.

*Third*, Vietnam's digital economic infrastructure is quite convenient for digital transformation and application. Vietnam has a rapidly growing network of telecommunications network infrastructure, information technology infrastructure and the internet, which is widespread and modern, not inferior to advanced countries in the world. The percentage of people using the internet and smartphones is high, among the top countries with the fastest growth rates in the world.

*Fourth*, recently, the forms of the digital economy in Vietnam have developed diversely, and tend to grow stronger in the coming years. The trend of digitalization, transformation and application of digital technology in many fields and economic sectors, from commerce to transportation, banking, healthcare, education, tourism, entertainment, advertising and other forms of applications. in which e-commerce develops rapidly in both scale and form. Forms of online marketplaces (online), shopping, business, entertainment, along with delivery services, online payment solutions, card payment, payment machines have exploded strongly, now present everywhere. While world-famous e-commerce brands are strongly landing in Vietnam, such as Alibaba, Amazon, Ebay, Shopee..., e-commerce sites of Vietnamese origin are also flourishing, some like Lazada Vietnam. Nam, Tiki, Sendo, FPT Shop, Dien May Xanh, The Gioi Di Dong,... are gradually taking over the domestic market share and thereby promoting changing trends and buying behavior of Vietnamese consumers.

*Fifth*, Vietnam's political system and macro-economy has always remained stable. Along with rapid economic growth and an increasingly integrated economy with the world, the increase in people's incomes, the growth of the middle class and a large market with nearly 100 million people. . This is really the foundation to promote the digital economy in general and e-commerce in particular.

#### **4.2. Disadvantages**

*First*, build a database and data connection. Data connection is a difficult problem for Vietnam. Many ministries, branches and localities have also built up fragmented and scattered databases, lacking connectivity. In order for the foundational models of technology services and digital service models to be implemented well and securely, it is very necessary to connect and share data from State agencies.

*Second*, the economy uses a lot of cash: According to economic experts, a challenging factor for the digital economy is that the use of cash is still too large. Cash is used for the majority of e-commerce transactions which is one of the huge obstacles to the development of the digital economy. It represents a lack of trust and mutual suspicion and greatly reduces the possibility of successfully connecting transactions.

*Third*, the institutional and legal environment for digital economy development. The institutional and legal environment is still weak, not tight, not synchronized, transparent and constructive. Due to the rapid development of science and technology, along with the outbreak of the Covid-19 epidemic, the digital economy, business methods and new creative ideas make state management agencies more transparent. quite confused in the management of digital economic activities.

*Fourth*, human resources have not met the requirements. Human resources, especially information technology human resources - the most important factor in competition and development of the digital economy - are still small in quantity and not guaranteed in quality. Vietnam is facing a shortage of high-quality human resources, especially information and communication technology human resources, human resources for new technology fields such as artificial intelligence (AI). Vietnamese education has not kept up with the development trend of the digital economy and the creative economy of the Fourth Industrial Revolution. If this issue is not paid attention to and invested properly in the near future, it will be a big obstacle for the development of the digital economy in our country.

*Fifth*, the assurance of network security, confidentiality and information safety. The digital economy is based on information technology, the internet always contains great risks in terms of security, information safety, finance and data privacy, of entities participating in the digital economy. Vietnam is one of the countries that is frequently attacked and is also vulnerable to cyberattacks. According to the Vietnam Computer Incident Response Center, there were a total of 10,000 cyberattacks targeting Vietnam's internet in 2017, causing a loss of VND 12,300 billion. According to research and statistics of security firm Kaspersky, Vietnam is in the top 3 countries with the most cyberattacks in the world in 2018. This shows that there is a big gap of Vietnam in the field of security. network security, information security. Failure to ensure network security and information safety will hinder the goal of turning the digital economy into one of the main pillars of our country's economy.

## **5. SOME SOLUTIONS TO DEVELOP THE DIGITAL ECONOMY IN VIETNAM**

*Firstly*, thoroughly grasp and well implement the views, guidelines and policies of the Party and State in actively participating in and strengthening the capacity to approach the Fourth Industrial Revolution, promoting the development of smart businesses, developing digital economy in the whole political system and business. In particular, it is necessary to renew thinking, unify awareness, strengthen the leadership role of the Party and the State in the development of the digital economy, create favorable conditions for businesses to access and operate in the digital economy. digital economic environment. Promote propaganda, raise awareness of the whole people to respond and accompany businesses in order to create an environment and favorable conditions for the development of smart businesses in Vietnam. In particular, raise people's awareness of the role of the digital economy in socio-economic life and the awareness of using electronic services to move towards a cashless economy.

*Secondly*, to build and perfect the legal framework, mechanisms and policies to create conditions to promote and support Vietnamese enterprises, especially small and medium enterprises to transform and develop in the digital economy. The State creates a favorable environment and promulgates mechanisms and policies to encourage enterprises to transform themselves into smart enterprises and start-up enterprises. Formulate and implement the National Strategy on the development of technology enterprises, giving priority to the development of digital technology enterprises and high-tech enterprises that design, create and manufacture in Vietnam.

*Third*, promote the development of socio-economic infrastructure to meet the requirements of



the digital economy. Building and developing e-Government with smart technology infrastructure. Forming and operating an e-government that is strong enough, smooth, administrative procedures compact, quickly creating a favorable business environment for enterprises. Building and synchronously developing national data infrastructure, forming a system of national data centers, regional and local data centers with synchronous and unified connection. Building a digital database of the Government and authorities at all levels, creating conditions for all citizens, especially businesses, to update necessary information on the guidelines and policies of the State.

*Fourth*, improve the quality of education - train human resources for the digital economy. The shortage of information technology human resources is considered one of the major challenges for the development of Vietnam's digital economy. Therefore, along with changing training programs to keep up with new technology trends, speeding up the socialization of training and fostering activities for the business sector so that businesses can soon access and transform. number in the business you manage. Along with upgrading and perfecting hard infrastructure, Vietnam needs to focus on investing heavily in science - technology and education, attaching importance to education and training innovation as required by the Second Industrial Revolution. private and digital economy. This includes developing strategies for training and attracting domestic and foreign technology talents, developing technology human resources, especially information technology in terms of both quantity and quality, innovating and updating, and absorbing The world's training programs and textbooks are associated with the trend of digital economy development, especially the training of information technology and finance and technology human resources in the digital age. Promote international cooperation in training, fostering and building a contingent of cadres and civil servants for the digital economy, capable of protecting, supporting and promoting the interests of Vietnamese enterprises in the environment. international integration into the global digital economy.

*Fifth*, focus on protecting economic security, information security, and network security. Focusing on ensuring information security and cyber security not only at the national level but also at each agency, unit at all levels and each enterprise, especially the financial - monetary system and government agencies. digitizing. Along with building and developing modern telecommunications infrastructure, becoming the foundation of the digital economy, it is necessary to focus on monitoring and preventing and combating cyber-crimes and high-tech crimes to create favorable conditions. conditions for people and businesses to easily and equally access opportunities to develop digital content. In addition, ensuring network safety and security will help Vietnam gain the trust of foreign partners, which is a safe environment for business investment, as well as an opportunity for us to develop. products for network security. In addition, it is necessary to actively explore and participate in international and regional cooperation mechanisms and initiatives in fields related to digital economic development, especially ensuring security and safety. cyberspace, data security and privacy, preventing and fighting crimes that take advantage of technology. In this aspect, it is necessary to attach importance to promoting cooperation and linkage in multilateral institutions at both regional and global levels, such as the United Nations, ASEAN... in order to develop rules for coordination and application joint arbitration, agreements, conventions and agreements on cooperation and coordination on related issues arising from the development of the digital economy in order to ensure information security and network security.

## 6. CONCLUSION

Digital-based economy and digital economic development is the use of digital technology and data to create new business models. With a population of nearly 100 million people, Vietnam is considered as one of the countries with a good digital economy development rate in the ASEAN region. The digital economy is an inevitable trend in the context of the Industrial Revolution 4.0, which has been spreading strongly to the world economy.

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# **IMPACT OF JOINING ASSOCIATIONS ON COMPETITIVENESS OF YOUNG ENTERPRISES UNDER COVID-19: EVIDENCE FORM AGRICULTURAL ENTERPRISES APPLYING HI-TECH**

**PhD. Huong Ho<sup>1</sup>, PhD. Hai Dang Nguyen<sup>2</sup>**

**Abstract:** *To evaluate the impact of joining the associations to improve the competitiveness of young agricultural enterprises applying hi-tech, the paper used the binomial logit model and the linear regression model with 400 respondents in four provinces including Lam Dong, Ho Chi Minh, Ha Noi, Thai Nguyen. The results show that the factors positively affect in joining associations including labor size, access to credit, growth, hi-tech application, collateral, competitiveness under the time of Covid-19. In addition, joining the associations helps these enterprises to increase their competitiveness with 1.218 times and some other factors have positively affect in the competitiveness including gender, size, productivity, capital, growth, hi-tech application. Moreover, the paper also gives some recommendations to improve the development of the associations under the Covid-19 time*

**Keywords:** *Young agricultural enterprises, hi-tech, young, associations, Covid-19 time.*

## **1. INTRODUCTION**

The young agricultural enterprise applying hi-tech is understood as an enterprise owned by a young person and this enterprise applies hi-tech in manufacturing. Hi-tech agriculture is a modern production method by using electronic, automation, chemical technology, information technology, biotechnology... to make products which are quality, safety and high efficiency. Hi-tech is used to combine new and advanced technologies to improve the effectiveness and ensure sustainable agricultural development. The application of hi-tech in agricultural production creates a large amount of products, improve productivity as well as enhance environmentally friendly production, helping producers actively in production and decrease in depends on the weather so the production scale is expanded, the price decreases and enhances competitiveness in the market. In general, hi-tech agricultural production has become the inevitable trend for Vietnam's agriculture in the process of economic development when 4.0 industrial revolution is taking place. Currently, hi-tech agriculture has been an essential direction for the sustainable agricultural development.

Besides, in order to improve the agricultural enterprises, these enterprises are mostly engaged in some associations (farm association, cooperatives, Youth Union...). However, in Vietnam, there

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is a lack of specific regulations on food/commodity supply chain associations, management is overlapping, and member spatial distribution is insufficient along the supply chain to manage the arm-length network. Because of the lack of support in technology, capital, and market, the efficiency of these enterprises are likely to be lower. So it can be seen that the participation in these associations help young enterprises to receive a lot of supports to enhance their competitiveness when the Covid -19 pandemic is causing many negative impacts on agricultural production activities.

The main objective of this study is to analyze the impact of joining the associations the competitiveness of the young enterprises under the Covid-19 time by using the logit model and the linear regression model with some factors such as labor size, productivity, credit access, market, growth, hi-tech, collateral... Besides, the paper also gives some recommendations to improve the development of the associations under the Covid-19 time.

## **2. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES**

Young agricultural enterprises applying hi-tech are often those that use processes in technology, algorithm optimization and new biological knowledge. These applications allow the owner's high-tech enterprises to examine complex problems in production when applying hi-tech and evaluate the efficiency of the production (Felicity et al., 2012).

In general, young agricultural enterprises applying hi-tech are now contributing to create jobs, promote production and applying technology, and support food for localities in the direction of safety, especially the model of using food. organic production methods (DeLonge et al, 2016). One type of the young agricultural enterprises proposed by researchers from Financier University is an enterprise that uses wireless device technologies in the production process. Wireless system is installed to measure temperature, humidity, greenhouse emissions through the installation of modules with weights, suitable for attaching to greenhouse plants to measure. Thereby, these indicators help the producers to adjust the appropriate crop care methods, make high productivity.

Similarly, Gliessman (2007) also introduced the enterprise using wireless networks with the deployment of sensor-enabled greenhouse IoT. This is the use of IoT platform software and automatic control for the IoT solution to monitor and control greenhouses. The process of building an IoT solution to monitor and control greenhouse applications in agriculture requires finding hardware suppliers that meet the requirements such as providing a variety of sensors for monitoring a variety of digital information, energy-efficient sensors, using only common batteries and wireless sensors must be able to transmit several hundred meters away as well as provide synchronization of sensors, controllers, receivers, and wireless transmitters. In addition, these enterprises are effectively applied in rice production when using bacteria with sensors and then introduced into the other fields to assess the health status of rice. So the growth status of the plant provides appropriate adjustments during the crop (Hatt S. et al, 2016). Currently, the use of IoT in hi-tech agricultural production has been deployed in many countries. Devices with sensors will continuously update information on the growth status of crops, livestock and help farmers to accurately monitor the development status of crops. In addition, information about soil properties, environment, irrigation system, fertilizer application method... will be stored into a data system through cameras. Some hi-tech enterprises also use information access systems through local intranets or websites to help

both manufacturers and customers access and retrieve information about the origin of products as well as input condition while the product is being sold on the market. The traceability system can be applied to both domestic and foreign markets (Hill,R., 2015).

In addition, there are a number of these young enterprises that apply biological achievements. This is a form with the basic characteristic of using technological products originating from the living world. For example, to treat plant growth-related diseases, instead of using chemical drugs, the models will add other therapeutic agents through the transmission of beneficial bacterial species to the plant to destroy harmful bacteria. These activities both improve the ability of crops to grow and limit the impact on the environment, create a sustainable agriculture (Heesterbeek. A.P, 2011).

Besides, the support of associations is characterized by eight dimensions including model ownership, innovation, organization creation, value creation, profit or non-profit, growth (Muchopa. 2011). The associations support the young enterprises through programs and policies which are often introduced by governments as part of a program to re-energize the local economy, combat poverty, increase productivity, income and for other obvious economic benefits (Hellin, 2009). Besides, the supports also include some incubators, innovation centers, technology transfer offices, science parks...

Overall, associations can support competitiveness of these young enterprises by giving some advises or sponsors. According to Levy-Tadjine (2004), these support is understood as a process of three stages: initial contact, support to launch the business project and follow-up after the enterprises. Ideally, this support starts when the businessmen have business ideas and they are supported to turn the ideas into a start-up project and then to set up a new business activity... Besides, the support refers to some activities such as training, funding, marketing... (Adewakun, 2012).

Participation in the associations is also considered as one of the important factors to help young people to increase their access to information, credit, technology... to meet the requirements of business activities and help them to improve their competitiveness (Valaskova, 2020). Many studies have also shown that participation in associations is an effective factor in bringing many benefits to manufacturers and young enterprises. They will improve productivity and competitiveness (Adewakun, 2012).

Moreover, the benefits of participating in associations are often studied in terms of providing opportunities for access to credit, support services, market information, management knowledge (Ekepu 2017). Francis Baah (2008) shows that cocoa farmer associations in Ghana have the ability to help their members improve their access to credit, market information, awareness of policies and procedures. These necessary supports help producers get out of the vicious cycle of productivity and low income. In addition, the associations can assist them in their participation and development some programs providing significant benefits to producers in the Loko region, northern Sierra (Mohamed, 2016).

According to Sheilla (2015), associations also have the role of supporting members through collective business activities thereby improving the livelihoods of producers. This is also evidenced in the studies of Zoran (2016) when up to 28.2% of the respondents confirmed that their participation in the associations helped them to gain many significant benefits such as increasing productivity,

faster growth and improving competitiveness. Idowu (2019) also evaluated the role of association membership affecting credit access through the use of probit and linear regression models with groups of variables in terms of access to credit, mortgage loans, capital size, and management experience. Membership of associations has also been demonstrated through quantitative research models. Ekepu (2017) uses a binomial logit regression model to determine the role of associations and factors affecting income and competitiveness of enterprises in Uganda. Joining the association will help them access to some services such as credit and market. And Nkechi et al (2015) used OLS technique to examine the effects of socioeconomic characteristics of members and some cooperative organizations on income.

Furthermore, Taiwo et al (2015) conducted a study on the effect of membership on the economic empowerment of women in the Nigerian. The obtained data were analyzed with both descriptive statistics and using regression models. Evidence from the study suggests that respondents' socioeconomic variables are determinants of their membership in the cooperative societies. Meanwhile, Gomina (2013) has conducted a study to analyze the impact of associations on savings and credit in fighting poverty for agricultural production establishments in Nigeria through using t-test models with the socioeconomic characteristics of the members (gender, ethnicity, marital status, education). Idowu (2019) uses Probit regression model to determine the influence of associations on the farm's livelihood. The study showed that the coefficients of income, growth and competitiveness were positively related to membership in associations that helped enterprises increase revenue by 10%.

In general, many studies show that joining the association has a positive impact on improving income, productivity, competitiveness of young enterprises. The variables used in the models are labor size, productivity, credit access, market, growth, hi-tech, collateral. Besides, these studies have used the linear regressive model to examine the impact of the associations to competitiveness of young enterprises (linear regressive, binomial logit regression, probit model, logit model, multinomial logit model...). Although some of those studies did examine impact, not even one emphasized the impact of the associations on competitiveness of the young enterprises applying hi-tech under the Covid-19 time. So, the study is to analyze the impact of joining the associations the competitiveness of the young enterprises under the Covid-19 time by using the logit model and linear regression model and gives some recommendations to improve the development of the associations under the Covid-19 time.

### **3. METHODOLOGY AND PROPOSED MODEL**

The study used data from the survey of 400 young adults aged between 18 and 35 who are heads of agricultural enterprises applying hi-tech from four provinces or cities (Ha Noi, Thai Nguyen, Lam Dong and Ho Chi Minh City) from 2020 to 2021. Youth is internationally commonly defined as below 24 years old (WHO, 2008); however, in this study, youth is defined as old as 35 based on Vietnamese Youth Law, 2005; therefore, the term of "young enterprises" and "youth" are used interchangeably. The studied areas are good representations where young people are more actively setting up agricultural young enterprises applying hi-tech. The sample is selected based on the layer division method, by which in each province, four suburban districts are chosen, then, in each district, two or three communes with a larger number of youth who are heads of their enterprises.

The interviewers have done conducted orally by asking structured, semi-structured and open questions. In addition, the selection process for studied area and the number of samples are based on the systematic random sampling; however, the sample has a highly consistent characteristics (function, features, location, traditions) in the information collection. Furthermore, authors have collected secondary data from local governmental agencies (Department of Agriculture and Rural Development, Department of Industry and Trade), The Vietnam Chamber of Commerce and Industry, State Institutions, Associations, General Statistics Office of Vietnam).

In this study, we use the binomial logit regression model to determine the effect of participation in the associations (farm associations, cooperatives, youth union...). The results will be included in the next linear regression model to evaluate the impact of participating associations on the competitiveness.

In the first step, the paper uses a binary logarithmic linear regression model to determine the probability of participating in the associations and receiving the supports. Estimates from the regression model used to determine effect of joining the associations. The selection equation has been presented as follows:

$$Y_i = \beta X_i + \phi P_i + \delta M_i + \mu_i$$

$X_i$ : is a vector of the independent variables affecting the decision to join the associations

$P_i$ : is a binary variable representing membership of the associations

$\beta, \phi$  và  $\delta$ : is the parameter vector to be estimated;

$\mu_i$ : error

The second step, in order to evaluate the impact of receiving support from the associations to competitiveness of the young enterprises, the study uses a linear regression model (Rajan, 1997). The independent variables in the model as follows:

**Table 1. Description, basis, and expectations of independent variables in the impact model**

Variables		Value	Sources
Labor size	Small	0	Nkechi et al (2015); Idowu James (2019)
	Large	1	
Productivity	Increase	1	Zoran Simonović (2016)
	Decrease	0	
Credit access	Yes	1	Ekepu (2017)
	No	0	
Market	Increase	1	Ekepu 2017; Mwaura 2014; Hellin 2009
	Decrease	0	
Growth	Increase	1	Zoran Simonović (2016)
	Decrease	0	Nkechi và cộng sự (2015); Idowu James (2019)
Hi-tech	Yes	1	Van der Walt (2008).
	No	0	

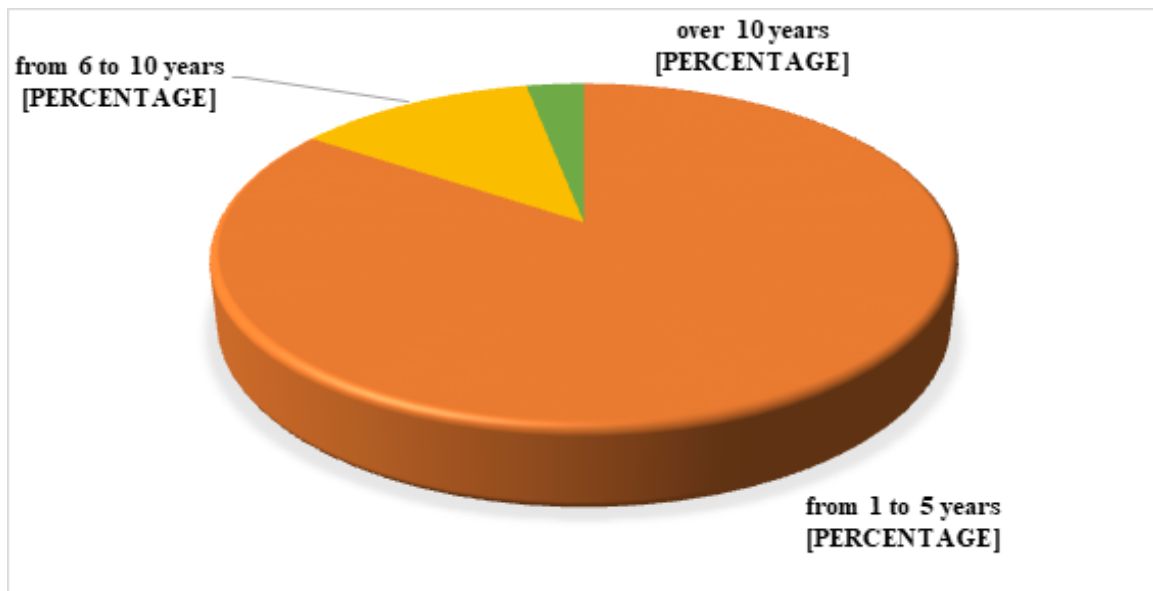
Variables		Value	Sources
Collateral	Yes	1	Joachim (2021)
	No	0	
Association support	Yes	1	Adewakun (2012); Bernard (2008); Muchopa (2011); Oyeyinka (2009); Bachke (2009)
	No	0	
Competitiveness	Increase	1	Van der Walt (2008); Ekepu (2017)
	Decrease	0	

The results of the model will show how many times the influence of the independent variables improve the competitiveness of young agriculture enterprises applying hi-tech under the Covid-19 time.

#### 4. RESEARCH RESULTS

##### 4.1. Descriptive Statistics and Findings

The survey shows that the main products of the high-tech enterprises are strawberries, mushrooms, safe vegetables, orchids, rabbits.... Besides, the time to start production and business activities is usually between 1 and 10 years.



**Figure 1. Start-up time of the young agricultural enterprises applying hi-tech**

*Source: survey results*

The survey results also show that most of the enterprises have a start-up time of 5 years (84%), only 13% are from 6 to 10 years and only 3% are over 10 years. Besides, the labors in high-tech agricultural enterprises has different levels of education. Level of high school accounts for 72%, level of college accounts 17.5% and only 10.5% has a master degree. Most labors are trained in short-term and long-term courses. In which, labor size of 1 to 5 employees accounted for 40.5%, while the size of 6 to 10 employees is 21% and over 10 employees is 17.5%.



**Table 3. Labors in the young agricultural enterprises applying hi-tech**

Education	Proportion (%)	Labor size	Proportion %
High school	72.0	From 1 to 5	40.5
College	17.5	From 6 to 10	21.0
Master degree	10.5	Over 10	17.5

*Source: survey results*

The survey results show that the average salary from 6 to 10 million accounts for 66.5%, while the average salary over 10 million accounts for 25% in these enterprises.

#### 4.2. Identify the factors influencing the decision to join the associations

The binomial logit linear regression model was used to explain the variables influencing the decision to join the associations. Among the variables described above, labor size, credit access, growth, hi-tech, collateral, competitiveness has positive impact on the decision to join the associations ( $p < 0.05$ ).

If the other factors are unchanged, the results of estimation affirm that credit access has a statistic meaning ( $p < 0.05$ ); an increase of credit access will raise the willingness to join association with 2.615 times. Similarly, Tran et al. (2018) reveal that credit access influence positively to making decision process of becoming a member of an association in the young enterprises. Better credit access enables them to meet the required conditions of becoming a member. The willingness to join association continues to increase along with labor size (1.924 times).

**Table 4. Factors affecting the decision to join the associations**

Variables	Coefficients	Std. Error	P-value
Labor size	1.924	0.920	0.009
Productivity	-0.341	0.441	0.039
Credit access	2.615	1.250	0.030
Access to market	-1.145	0.518	0.009
Growth	1.320	0.725	0.006
Hi-tech	3.062	2.219	0.057
Collateral	0.212	0.438	0.004
Competitiveness	1.217	0.410	0.006
Constant	1.059	2.685	0.004
Number of obs	400		

*Source: survey results*

The ability to apply hi-tech has statistical significance and a positive impact on memberships. This might result from the fact that associations provide information with better quality. The existing members can discuss with the enterprises about potential benefits, which, hence, influence to making decision process of the enterprises. The young enterprises having a closer connection to associations are more easily to utilize the supports from the associations; as a result, they increase their competitiveness.

The expansion of collateral, competitiveness factors will increase the willingness to become a member with 0.212, 1.217, respectively. These factors play an important role as mentioned earlier, the enterprises are mostly shortage of capital while producing in a larger scale requires greater resources and capital under Covid-19; therefore, joining an association is one of the most effective strategies to overcome these constraints.

However, market access has a negative impact on the decision to participate in associations with -1.145. It means that if the enterprises are capable of searching and exploiting the market by itself, the enterprises will be actively deployed without the support of associations.

#### 4.4. Evaluation of the effect of participating in the associations on improving the competitiveness

After identifying the factors that influence the enterprises' decision to join associations, the study uses a linear regression model to evaluate impact of this participation on improving the competitiveness of the young agricultural enterprises applying hi-tech under the Covid-19 time

. The results show that the variables that are positive effect including the support of associations, labor size, access to credit, growth, hi-tech application.

**Table 5. Impact of supports on improving competitiveness of the young agricultural enterprises applying hi-tech**

Variables	Coefficients	Std. Error	P-value
Association supports	1.218	1,209	0.004
Labor size	1,255	0,215	0.031
Credit access	1,628	1,812	0.007
Growth	0,951	1,221	0.001
Hi-tech	1,120	1,091	0.015
Collateral	-0,316	0,521	0.009
Constant	2.345	0.518	0.000
Obs	400		
R-Squared	0.713		

*Source: survey results*

The finding affirms the impact of membership has statistical significance ( $p < 0.05$ ) and positive to the young enterprises' competitiveness. In Table 5, test F of regressive has a meaning, which shows that there is no error in selection. By receiving these supports, the enterprises can increase their competitiveness ability by 1.218 units under the Covid-19 time.

According to the results of model estimation, the increase of one unit of labor size will lead to an increase of 1.255 units of their competitiveness. Similarly, the efficiency of credit access and growth have influenced remarkably to enterprise's competitiveness (1.628 and 0.951, respectively). Moreover, the estimated result confirms that hi-tech application can have a positive impact. If the youth enterprises apply hi-tech, the competitiveness jumps to 1.120. This is one of the factors that help young people successfully build their own enterprises. However, the level of influence from these activities on the competitiveness's enterprises is still low and that requires some effective solutions to improve the quality of associations

## 5. DISCUSSION AND CONCLUSION

This paper has examined what factors affecting competitiveness of young enterprises applying hi-tech by using a binary logit model and a regression model. The research findings including:

First, the positive factors including labor size, credit access, growth, hi-tech, collateral, competitiveness are likely to affect to the willingness to join associations, however, access to market and productivity age are negative factors.

Second, to evaluate determinant factors on competitiveness of the young enterprises applying hi-tech, the finding shows that supports from the associations have a statistic significance and positive impact (1.218). Moreover, it also concludes that competitiveness of the young enterprises is considerably influenced by labor size, access to credit, growth, hi-tech application. These research findings prove that associations can offer their members some benefits such as supplying information about inputs, outputs, providing support services, organizing training course, and connecting to credit funds; as a result, these enable the youth enterprises to increase their competitiveness.

In general, to improve the effectiveness of support activities of the associations as follows:

Firstly, strengthen activities to attract resources and support youth to build hi-tech agricultural enterprises, focus on support them to funds by having clear regulations on financial support mechanisms as well as establishing of many national funds...

Secondly, improve training activities on business skills, knowledge about markets and customers, the way of product consumption, application of hi-tech. Besides, it is necessary to create connectivity and mutual support between institutions from the central to the grassroots level efficiently and transparently.

Thirdly, create an effective environment to accelerate the application of hi-tech application in the young enterprises. This can be done through communication work in some localities, forming specialized centers to support young people

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# DEVELOPING PUBLIC SERVICES IN VIETNAM

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**Abstract:** *In most nations, public services are intended to address specific needs pertaining to the aggregate members of a community. The Government takes responsibility to ensure and monitor the efficiency and the fairness of public services. In the process of social and economic development, the demand for public services increases rapidly which leads to the increase in the cost of these services up to a level of exceeding the capacity of the government budget. On the other hand, the government's capability on public services management is not commensurate with the requirements of development process. Reforming the public services management and public services delivery to enhance the social role of public services is an urgent requirement. This paper will analyze the theoretical framework of public economics and the current situation of public services, focusing on public services in Vietnam, then propose several recommendations to promote the development of public service in Vietnam.*

*Keywords: public service, international experience, Vietnam.*

## 1. THEORETICAL FRAMEWORK AND CURRENT SITUATION OF PUBLIC SERVICES

### 1.1. Theoretical framework

Although the concept and scope of public services are approached differently, there is always one thing in common that public services are intended to address specific needs pertaining to the aggregate members of a community. Even if the government outsources some public services to the private sector, the government still has a regulatory role in order to ensure the fairness of these services and to overcome market inadequacies.

In a free market, companies providing private goods and services need to answer three questions: What to produce? How to produce? For whom to produce? However, regarding public goods and services, a fourth question needs to be answered including: Which is the choice of the public? The production and provide of public services can be carried out by both public sector and private sector, depending on who could do better, but the government must play a role in monitoring, controlling and improving the defects incurred during the production and supply (Joseph Stiglitz).

Currently, the supply of public services in most countries is normally carried out in the following ways: (i) The Government provides money and the Government provides services. (ii)

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The Government outsources for others to provide services. (iii) The Government and the private sector collaborate to provide services. According to the last mentioned model, both the Government and the private sector can collaborate in the production and supply of goods and services for society. Along with encouraging private sector to invest in many industries, the Government also run several state-owned enterprises to directly regulate the production and supply of some important goods and public services. This model is popularly conducted in New Zealand, Singapore, etc. In this economy, the following main forms of supply can be witnessed as follows:

Firstly, the Government provides money and the private sector provides services: This is what many people call a contract model between the Government and private organizations in supplying goods and services funded by the Government. All costs to ensure the supply are covered by the Government. The difference here is that the entity directly organizing the supply for society is not a state-owned enterprises but a private enterprise. The Government's expenses not only cover the completion of goods, services, and services, but also cover profits for businesses to compensate and develop supply activities.

Secondly, the private sector provides money and the Government provides services: This is often applied to daily life goods and services and state-owned enterprises could be chosen directly by the beneficiaries to be the supplier (through bidding, ordering, etc.). It is worth noting that the beneficiaries pays money for this supply. Based on that financial amount, the enterprise will supply goods and services. This method is often applied in the areas where the beneficiaries have a favorable, fairly uniform standard of living and suitable fields of activity. For example, in some residential areas, people can discuss and agree to jointly contribute finance sign a contract with a state-owned enterprise for upgrading surrounding roads.

Thirdly, the Government and the private sector jointly invest money together to supply goods and services: Public services are supplied based on the principle of equality among investors, including the Government. In this relationship, the Government acts as a shareholder of the company. This shareholder jointly contributes capital, receives benefits and takes responsibility for the operation of the organization. As a results, many forms of cooperation and business association between the Government and private sector organizations are formulated, and companies operating in the public sector with both the Government and private sector as shareholders are established. This method has been widely and successfully implemented in a number of industries of countries such as aviation services, telephones, shipping, finance and banking, etc in the period from 1988 to 1994 in New Zealand and in medical services in the 1980s of in Singapore.

After performing many research, we summarize several factors affecting how public services are supplied, including:

(1) The level of social development, including: Social and economic development level, science and technology development level, budget size and GDP, population size and structure, educational level and population income, the urbanization, etc.

(2) The role of the Government in providing public services, which includes the following contents: (i) The policies on the role of the Government in providing public services; (ii) Mechanisms, policies and legal system of the Government; (iii) The capacity, effectiveness and

efficiency of the state administration, etc.

(3) Characteristics, quantity, and quality of public services

(4) Awareness and capacity of personnel in public services

(5) The participation of enterprises in governmental management activities in the supply of public services

(6) People's perception in using public services

(7) Others: regional factors, structure of governmental budget expenditures, etc.

In conclusion, the supply of public goods and services could be performed both the Government or the private sector, however, public services management is an important function of the Government. The problem is, how the Government would control and how the Government would manage to satisfy the needs of the people and the social community as well as to ensure the long-term development and planned targets.

## **1.2. Current situation of public services**

In Vietnam, public services is divided into three groups as follows:

(1) Public services as activities that provide essential social welfare to the people such as education, culture, science, health care, physical training and sports, insurance, and social security, etc.

(2) Public services as activities that provide basic and essential goods and services to the communities such as environmental sanitation, waste treatment, clean water supply, public transport urban community, disaster prevention, etc. Some activities can be undertaken by the private sector, such as environmental sanitation, clean water supply, etc.

(3) Public services as governmental administration, also known as public administrative services, is a type of service associated with the governmental management function to meet the requirements of the people. This is part of the governmental management function. To perform this function, the government must conduct direct service activities such as granting permits, certificates, registration, notarization, visas, civil status, etc.

### **1.2.1. The privatization of public services in Vietnam**

In a market economy, people's living standards are increasing, which has allowed to promote the privatization of public services, thus increasing welfare benefits. Many administrative procedures that was previously only in charge of the Government has now been partially transferred to non-governmental organizations. Policies and regulations for the implementation of the privatization have been researched and promulgated by the Government in order to attract resources to participate in the development of education, healthcare, culture, sport. Concretize by policy documents, especially Decree 32/2019/ND-CP on assigning tasks, placing orders and bidding for the supply of public products and services using the governmental budget from regular funding, Law No. 64/2020/QH14 on investment under the form of public-private partnership, etc. According to Mr. Vu Tien Loc - Chairman of the Vietnam Chamber of Commerce and Industry,

in order to attract the private sector to participate in providing public services, the role of the Government is very important. Accordingly, the Government needs to change its role, set a legal framework and closely monitor service provided.

The results show that the system of non-governmental providers is increasingly developing, meeting a significant demand of society's needs in the fields of education, health, culture and sports, etc. However, there are still many shortcomings, such as the management institution is not synchronized, enterprises in the private sector often focus more on profit, so they tend to push up service prices, arbitrarily adjusted service fees, inadequate service quality, and poorly transparent financial mechanism, the problem of determining public service prices is still confusing, etc.

The above limitations result from the facts that: (i) The concept of privatization is not comprehensive and complete; (ii) a part of cadres, civil servants and people have the mindset of expecting and relying on the Government's subsidies; (iii) policies, regulations and mechanisms to attract investment of social resources to develop public services are not attractive enough; (iv) People's income, in some areas, is still low, public services has not developed evenly.

### ***1.2.2. The equitization of public non-business units in Vietnam***

Up to now, there are many documents guiding the transformation of public non-business units into joint-stock companies, for example, the Decision No. 22/2015/QD-Ttg on the transformation of public non-business units into joint-stock companies. Qualified public non-business units are allowed to make plans to transform their operating models into joint-stock companies. Public non-business units in the fields of health, education and training are allowed to promote business activities under the autonomy mechanism like an enterprise. Encourage collaboration on the basis of preserving assets; pilot leasing management, leasing facilities, pilot equitization.

Transforming public non-business units into joint-stock companies is specified in Decision No. 31/2017/QD-TTg including 20 business fields such as exploitation, production and supply of clean water, drainage and wastewater treatment, environmental sanitation, light, producing and storing original varieties of plants and animals, consulting services, technical support services for scientific and technological research, labor market information, employment services, infrastructure development of industrial parks and industrial clusters, etc.

After that, the Government issued Decree No. 150/2020/ND-CP on the transformation of public non-business units into joint-stock companies replacing Decision No. 22/2015/QD-Ttg, ensuring stronger legality, more specific regulations on conditions for a public non-business unit to be transformed into a joint-stock company, such as self-guaranteed recurrent expenditures and investments or self-guaranteed recurrent expenditures in the nearest year to the transformation date.

The transformation of public non-business units into joint-stock companies is still limited, mainly taking place in big cities with highly active markets.

### ***1.2.3. Limitations in the development of public non-business services in Vietnam***

Firstly, many public non-business services have been issued with and without the use of the government budget, but the concretization and practical application are still confusing, due to many reasons, including the initiative of public non-business units is still not high.



Secondly, the institutionalization of the management role of the Government and the governance of public non-business units is not clear.

Thirdly, a number of guiding documents have been issued to guide the development of economic and technical standards in the supply of public non-business services, but putting them into practice is still difficult, the practicality is not high, all levels of sectors, branches locality is still confused and has not implemented synchronously.

Fourthly, the institution in providing non-business goods and services is not equal between the public and private sectors, it is necessary to convert the allocation of governmental budget according to the input to allocation according to output.

Fifthly, the management role of the Government in the process of privatization of several public non-business services is still limited. Choosing the field of privatization is not close to the actual needs, leading to the situation that some services that need the Government to supply are left to the market, while areas that need privatization are now supplied inefficiently by public non-business units.

## **2. OPPORTUNITIES AND CHALLENGES**

### **2.1. Opportunities**

Vietnam's economy has shown positive developments in recent years. It can be recognized that a new economic development cycle is starting, inheriting both positive and negative factors of the previous cycle, comes along with opportunities to develop and improve the quality of public services included in the Governmental administrative reform master program for the period from 2021 to 2030 (institutional reform, administrative procedure reform, organizational reform). Governmental administrative apparatus, civil service reform, public finance reform, and building and developing e-government and digital government, especially undertakings and policies on industrialization and modernization). By 2030, with a vision to 2045, Vietnam will focus on developing services, in which the public service market will be developed along with the process of industrialization and modernization of the country.

### **2.2. Challenges**

The socialist-oriented market economy is increasingly developing and integrating deeply into the region and the world, the needs of people at home and abroad for the number and types of public services are increasing, demanding increasing quality. However, the level of mobilization of resources into the government budget to ensure the supply of public services for society is limited, thus, it is necessary to strongly promote the public service market.

The issue of socialist orientation that "leaving no one behind" is a challenge for the development of the public service market. The government expands the collection of money from public services users. However, collecting money from users can also have risks such as the poor are excluded from the use of necessary services, the lack of services in remote, isolated, poor areas, the suppliers, who like profit, might underestimate the quality of services, not paying attention to those who cannot afford to pay.

### **3. SEVERAL RECOMMENDATION TO DEVELOPE THE PUBLIC SERVICE MARKET**

#### **3.1. Synchronize guidelines, policies and laws and improve the ability to practically implement the Party's viewpoints and guidelines on management innovation and the development of public non-business services**

Transforming the government's role in the production and supply of public non-business services to the role of management, supervision, inspection, and public announcement of quality standards. Giving autonomy and self-responsibility to public non-business units as an entity in the service market, accepting competition with other entities, taking operational efficiency as a measure, thereby constantly improve service quality and enhance accountability to consumers.

Diversifying public service providers. Reviewing types of public non-business services (education, health, culture, arts, science - technology, physical training – sports, etc) to determine which services that the Government needs to hold, which services can be delegated to the non-governmental organizations. The Government as a market subject plays a leading role in providing social services when public service providers are given autonomy, self-responsibility, and constantly improving competitiveness and service quality.

Expanding public-private partnership in the development of public non-business services with various forms.

Improving economic and technical standards in the production and supply of public non-business services, accurately and fully calculate factors that affect service prices in a transparent manner.

Renovating the way of using public finance, from allocation money according to annual budget estimates to investment based on output, efficiency obtained, increase ordering and bidding for social service packages using budget.

Renovating the supporting forms of the Government such as direct support for the poor, ethnic minorities, etc., in accessing public services.

#### **3.2. Recommendations on the equitization of public services sector**

Firstly, only public non-business units providing non-pure public services should be equitized.

Secondly, among the non-pure public services, to ensure successful equitization, only considering services that are capable of charging enough costs into service prices and have reasonable accumulation for suppliers within the ability of the majority of the population to pay.

Thirdly, it is necessary to distinguish between exclusive services and competitive services to choose the field of equitization.

#### **3.3. Recommendations on promoting financial autonomy in public service providers**

##### **3.3.1. Improving the legal framework and organizing the implementation of the autonomy mechanism of public non-business units**

The legal framework on the autonomy mechanism of public non-business units has not yet been completed, many regulations conflict with each other or have become outdated compared to reality, which causes many difficulties for both government management agencies and public

non-business units in implementation. However, from 2020, the Government has issued a number of new decrees on self-organization of apparatus, personnel and financial autonomy of public non-business units to improve the legal framework for this field. But the Government's Decree has been issued while the guiding Circulars of the Ministries have not been issued in the prescribed time. Therefore, the author proposes a number of contents that need to be further improved as follows:

- Issuing a Circular guiding the implementation of Decree 106/2020/ND-CP dated September 10<sup>th</sup>, 2020, on employment positions and the number of people working in the public non-business units, so that the units have a basis to determine the total number of employees by job position, arrange labor in the unit according to job position and proceed to pay salary according to job position and financial capacity of the unit.

- Promulgating a Circular guiding the implementation of Decree 60/2021/ND-CP dated June 21<sup>st</sup>, 2021, regulating the financial autonomy mechanism of public non-business units. Decree 60/2021/ND-CP has many significant changes compared to Decree 16/2015/ND-CP on determining the level of financial autonomy, autonomous unit classification, autonomy in financial transactions and joint ventures and associations. These are the contents that have a great influence on the operation of the public non-business units, so it is necessary to issue a Circular guiding the implementation of this Decree soon.

### ***3.3.2. Improving the method of providing public non-business services***

Decree 32/2019/ND-CP and Decree 60/2021/ND-CP stipulate more specifically the public services using and not using the government budget, and switching from average allocation support mechanism to a mechanism where the Government assigns tasks, places orders, and bids for the provision of public services based on the output quality or bids for the provision of public services.

The Government will participate in providing essential public services to address the defects of the market economy. To determine which public services require governmental participation, the following questions should be answered:

(1) Is this public service essential? Can this public service market operate under a market mechanism?

- If the public service is not essential and the market for this public service can self-regulate according to the laws of the market economy such as the law of supply and demand, the law of price, the law of competition. The Government does not participate in providing public services, the Government only manages the activities of the public service market. These public services do not use the government budget, the public non-business units providing public services without using the government budget need to build a separate economic assessment for these services as a basis for determining the unit price and service price using the principle of collecting revenue and expenses and accumulating.

- If the public service is essential and if the market is allowed to self-regulate, defects will arise. Therefore, the Government needs to participate in this public service market, providing public services to the society. In this case, localities need to issue a list of public services using the governmental budget.

(2) List of public services using governmental budget?

- Public services serving political tasks, government management and public services that cannot be privatized, the Government will ensure all funding.

- For public services that have the ability to privatize, the Government will ensure part of the funding.

(3) How to provide public services using governmental budget?

- If the local governmental agency has not yet issued a list of public services funded by the government budget, it will continue to do so in the form of assigning an estimate to the affiliated public agency to provide public services.

- If the local governmental agency has promulgated a list of public services using the government budget but has not yet developed an economic assessment of those public service lists, it shall switch to the form of assigning tasks to provide public services using the government budget.

- If the local governmental agency has issued the economic assessment of the list of public services funded by the government budget but has not yet established a unit price to calculate the full cost, it can be done in the form of assigning tasks or ordering the provision of public services using government budget funds. In case of ordering, it is necessary to compensate for the cost that is not included in the public service price for the public non-business units.

- If the local governmental agency has issued a list of public services, has issued the economic assessment of the list of public services using the government budget, and has issued a unit price to calculate the full cost, but there is only one service provider or a unit registered to perform, then place an order to provide public services. In case there are 2 units registered to perform and with the participation of qualified non-government units, the bidding for public service provision shall be conducted using government budget funds.

### ***3.3.3. Constructing and pricing of public services in public non-business units***

The determination of public service prices must first issue economic and technical norms and comply with the laws of the market.

Service costing method is a way for accountants to calculate the total cost and unit cost for the completed service.

Cost accounting and costing generally use two techniques, including:

- Cost accounting and job-based costing: applicable to units that produce single products, services, or mass production with small volumes according to orders, time to work on a case-by-case basis. The management requirements of cost aggregation and job-based costing require knowing the cost of production and the cost of each order.

- Cost accounting and process-based costing: applied to units that mass-produce with large volumes, stable products, technological processes to produce products and services that can be a simple technological process or a complex technological process (complex process of continuous processing, or parallel processing), or a mixed production and manufacturing process.

Accordingly, in order to choose an appropriate cost accounting and cost accounting technique, it is necessary to base on the characteristics of each type of service, the characteristics of simple or complex production technology and requirements management demand.

In general, cost accounting techniques and job-based costing are suitable to the requirements of determining the cost and cost of service activities outside of normal operations, associated with the characteristics of service activities in a term or full-service contract. For example, at public non-business units in the field of education, cost accounting techniques and job-based costing in accordance with order-to-order training activities, training and retraining classes, or is applied to determine the cost of implementing each scientific research topic. Then, since there are no costs for unfinished services at the beginning and the end of the period, then:

$$\text{Total cost of the service} = \text{Total costs incurred for the service}$$

In contrast, for services associated with a long implementation process, costs incurred in many periods, the process of the implementation and supply of services is closed in accordance with cost accounting techniques and cost situation by process.

The author proposes methods to determine the cost of public services as follows:

#### **Direct method**

- Application cases: At public non-business units, there is a process of implementing and providing public services according to a simple and closed process, ending the process of creating a product or service. Goods and services are few, high volume, short cycle, few/or no defects and relatively stable.

- Objects of collection of implementation costs: The entire technological process of creating products and services, the object of cost calculation is the volume of finished products and services provided.

- Basis for formulation: This method is based on the classification of expenditures according to the nature of expenditures combined with classification according to the government budget index.

#### **Coefficient costing method**

- Application cases: At public non-business units, there is a process of implementing and providing public services according to a simple and closed process, ending the process to create a variety of products and services. For example: At university, with the same simple and self-contained technological process of implementation and supply, training services produce a variety of different products, for example, full-time university training products and services that are graduates of mass/standard programs and other programs (high quality, international), products and services of higher education according to other training systems such as transfer, second degree, work and study. Therefore, to ensure the accuracy in calculating the cost for each different type of product or service, training institutions can apply the coefficient-based costing technique.

- Objects of cost collection: The entire technological process of creating products and services. The object of the price calculation is each type of finished product or service.

- Basis for formulation: Standard service aims to convert services into a single standard service. The service with a factor of 1 is selected as the standard service.

### **Total costing method**

- Application cases: The government's order fulfillment and task assignment only takes place in a number of specific and large-scale public non-business units, so when determining the cost of services, it is made according to the orders, the unit bases on the reality and requirements of related parties to determine. The cost of each order is the total cost incurred from the beginning of the execution until the completion of the order in accordance with the technical standards agreed upon in the contract.

- Objects of cost collection: All costs incurred by each order or assignment.

- Basis of formulation: According to this method, the cost of products and services is determined based on the aggregation of costs (according to the classification of costs according to the way costs are gathered into the cost object) and the quantity expected product or service.

### **Variable cost costing method**

- Basis for formulation: This method uses the classification of costs according to fixed and variable costs, according to Circular 107 regulating the accounting regime for administrative expenses and according to the government budget index. The collection of cost data in an organized way through the accounting system, especially the detailed ledger system. For example, costs are aggregated by classifying costs according to initial economic content: labor costs, raw material costs, general production costs in detailed books of production and business activities.

At the same time, in the group of public non-business units with different levels of autonomy, costs are collected in different accounts.

In summary, the classification of costs by fixed and variable costs will help units determine the break the output level according to the formula:

$$Q = \frac{F}{P - V}$$

In which: F is the total fixed cost; P is the unit selling price; V is the unit variable cost.

Then, units can build their own operation plans as well as the number of products to provide to society in order to improve service quality, maximize benefits and minimize costs.

The cost of providing services according to variable charges is determined by the following formula:  $Z_{bp} = Z_{sxbp} + V_{qldn}$

In which:

$Z_{bp}$  is the cost of providing services by variable cost

$Z_{sxbp}$  is the cost of production and service by variable cost

$V_{qldn}$  is the variable cost of production and business management

Original cost of consumable services:

$$G_{cp} = Z_{bp} + F$$

$$F = F_{xs} + F_{ql}$$

In which:

$G_{cp}$ : Original cost

$Z_{bp}$ : Service cost by variable fee

F: Total fixed cost

$F_{xs}$ : Fixed production cost

$F_{ql}$ : Fixed administrative expense

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# PROPOSING A MODEL FOR FACTORS INFLUENCING THE SUSTAINABLE DEVELOPMENT REPORT OF VIETNAM BUSINESSES IN GLOBALIZATION CONDITION

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**Abstract:** *The sustainability report serves as an important communication channel for firms to address the different demands of stakeholders on economic, environmental, and social concerns. The announcement of actions and initiatives aimed at achieving long-term development advantages both internally and internationally. Sustainability reporting is viewed as a new technique to develop and measure corporate value in today's worldwide market. Because of its significance, the authors investigated and presented a variety of factors influencing enterprise sustainability reports. Following that, the paper provides a model of variables influencing sustainable development reports in Vietnam in the context of globalization.*

**Keywords:** *Proposed, Sustainability Reports, Globalization Conditions, Viet Nam*

## 1. INTRODUCTION

In the country's development, Vietnam has accelerated the process of globalization and is deeply integrated with the region and the world. The integration process of Vietnam is being actively implemented in the new context of the volatile world. Since the economic renovation, Vietnam has had strong development. That development process is assessed mainly on the exploitation of natural resources. Enterprises using outdated technology easily cause environmental pollution, low technology content, and low added value. That requires going hand in hand with economic development but must protect the environment, protect natural resources, and ensure the harmony of interests between the state, businesses, and people. That is sustainable development, which is the goal and concern of countries today. The concept of sustainable development emerged in the 1970s when the world struggled to cope with threats such as rapid population growth and the depletion of natural resources. However, for the first time, the concept of "sustainable development" was clearly defined by the United Nations' World Council on Environment and Development (WCED) in its 1987 report "Our Common Future". Sustainable development is: "Development that meets the needs of the present, without impeding the ability of future generations to meet their own needs".

Sustainable development can be considered the social responsibility of an enterprise. Sustainable development activities of enterprises are considered as sacrifices of economic benefits to ensure the

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benefits for the stakeholders of the business. However, in the overall performance of an enterprise, it can be seen that sustainable development is related to the efficiency of economic activities. In the short term, when businesses pay attention to and integrate sustainable development activities in the business process, it will increase costs and reduce profits. The sustainability report is considered a tool to measure, announce, explain and commit the responsibility of enterprises to stakeholders for sustainable development activities. In addition to financial information, information about business activities in terms of environment and society is increasingly interested. Sustainability reporting is a new tool that helps businesses organize and disclose information about sustainability activities in a similar way to financial statements. A sustainability report is an information sheet about the sustainable development of an enterprise over a business period and the business's action targets for sustainable development in the future. Internally, the process of identifying sustainable development aspects and preparing a Sustainability Report helps companies to consider the interests of stakeholders. Also, identify business risks and opportunities. Since then, enterprises have prepared for a new development trend, decentralizing responsibilities and improving the management system to improve operational efficiency (Hong, 2016).

The creation of sustainability reports aids companies in realizing that their sustainable development initiatives and objectives are publicly publicized. It is essential to have clear actions and goals in sustainable development operations for a business to project a positive image. Making sustainability reports, then, has a favorable impact on particular corporate actions. The pursuit of sustainable development will advance once every company works together to contribute. Investors are aware of the significance of sustainability reporting issues as a factor in financial performance and as a key indicator of the enterprise's influence on the environment and society. To make wise investing selections, investors need to have this knowledge. According to studies, companies that effectively manage sustainability frequently experience financial success. Therefore, more and more enterprises decide to publish their sustainability reports independently or in their annual financial statements and on their websites (Hung et al., 2018).

Enterprises make sustainability reports to enhance transparency, enhance brand value, and compete with other businesses. On the other hand, it motivates employees and supports enterprise information and control processes (Hahn and Kuhnen, 2013). Circular 155/2015/TT-BTC developed and issued by the State Securities Commission to guide information disclosure on the stock market has integrated information on the environment, society, and corporate governance in the annual report form. Therefore, listed companies began to publish information related to sustainable development in their annual reports. However, sustainability reporting in developed countries has been around for a long time, but in developing countries requires a great deal of effort due to the lack of expertise and costs associated with the practice. In the world and Vietnam so far, there have been quite a few studies and reports on sustainability in different business environments such as Person and Vingren (2017), Tuan et al., (2019), Luc and Phuoc (2019), Anh and Linh (2020), Masum et al., (2020) ... However, which factors affect the sustainable development of enterprises and how to measure those factors are still quite limited. In this study, the authors, based on previous research reports, propose a model that affects the sustainability reports of enterprises in the context of globalization.

## 2. LITERATURE REVIEW

Sustainability reporting experienced explosive growth in the early years of the millennium. In recent years, the issue of sustainable development has attracted a lot of attention from the community as well as businesses. The commitment to implement sustainable development activities is always concerned and considered an important program. Following through on these commitments not only helps businesses grow sustainably but also has a sustainable impact on the environment in which we live and operate. Some businesses that have been contributing to the development of the economy and technology will suffer a lot of criticism on social issues, such as environmental pollution, waste, scarcity of resources, quality, and product safety. These issues are attracting more and more attention and concern from the community. Studies on Sustainability Reporting are also conducted quite a lot. The detailed model of WCED (1987), requires the harmonization of the fields of the economy - politics - public administration - society - technology - engineering - production - international relations. The three-circle model of Jacobs and Sadler (1990), sustainable development is the harmonization of all three fields of economy, society, and environment. Three circles of equal size, the intersection area of the three circles is the largest, the highest sustainable development.

In developing countries, many studies are showing that these countries are lagging in sustainability reporting. Commenting on sustainability reporting trends from 1996 to 2005, Milne and Gray (2007) conclude that sustainability reporting is a phenomenon in developing countries such as China, Egypt, and Chile... GRI (2016) notes that sustainability reporting has increased rapidly in developed countries but mainly in Asia, this trend has received less attention in Latin America, the Caribbean, and Africa. Wokeck (2019) argues that the gap is still large because access to issues related to sustainability reporting is limited to large enterprises. Despite academic and practical efforts, the sustainability reporting challenge persists and developing countries continue to lag behind developed countries. Tauringana (2020) calls for the application of management perception research based on critical analysis of both management perceptions of sustainability reporting research determinants and impact assessment of GRI efforts to increase the quality and quantity of sustainability reporting in developing countries. This is also a study that supports the assessment of managers' perceptions of the application and publication of sustainability reports instead of using quantitative data, and secondary data to evaluate Rate this issue. Research results indicate that factors such as training, legislation, issuance of guidelines, stakeholder pressure, awareness campaigns, and market, and public pressure are some of the determining factor's publication of the sustainability.

However, the authors only selected many case studies and new development research directions from which to propose factors affecting the sustainability report.

## 3. RESEARCH HYPOTHESES AND PROPSAL MODEL

Based on Stakeholder Theory and Agency Theory, researchers believe that the group of corporate governance factors influences the disclosure of corporate sustainability information. Research by Arayssi et al. (2016) suggests that the participation of women on the board of directors will increase the disclosure of information about the environment, society, and corporate

governance. The female director will promote the implementation of social and community programs, thereby improving the corporate social responsibility profile.

In addition, there is also a study that suggests that the factors of equity structure (such as management shareholders, major shareholders, and state shareholders) will affect the level and size of the report. sustainable development (Aman et al., 2015). However, the research results show that only the State holding shareholder has an impact on the publication of the sustainability report. Furthermore, Michelin and Parbonetti (2012) suggest that there exists a relationship between board composition, leadership capacity, board structure, and disclosure of sustainability reporting. Research by Michelin and Parbonetti (2012) concludes the influence of the community promotes business disclosure of sustainable development. The authors provide evidence of the relationship between corporate sustainability committees and sustainability disclosure, even though board composition and leadership do not affect sustainability reporting steadily.

Legitimacy theory was first developed by Dowling and Pfeffer (1975). This theory states that organizations must act in accordance with the values and norms of society. Accordingly, legitimacy is “a condition or a state of existence where the value system of an entity conforms to the value system of the larger social system of which the entity is a part.” (Lindblom, 1994). According to legal theory, sustainability reporting is a tool to assist companies in dealing with political, economic, and social pressures. Companies behave in ways that are deemed consistent with the perceived goals of society, in order to legitimize their activities. The perceived goals of society are represented by different interest groups. Based on the model of Legitimacy Theory, Michelin (2011) studied the relationship between the size of the sustainability report publication and the factors related to the company’s reputation, including a commitment to stakeholders. relationships, financial performance, and media exposure. Based on the collected sample, the author analyzes the content from annual reports of businesses and the media. The results show that meeting stakeholder commitments and appearing in the media have a positive impact on the publication of sustainability reports. In addition, the higher the level of commitment an enterprise has to its stakeholders, the more information about the environment and social responsibility will be disclosed. Along with the arguments through the above theories, the results of some research papers also show a positive relationship between firm size and corporate disclosure (García-Sánchez et al., 2011; Gul and Leung, 2004; Prencipe, 2004).

The researchers used Signaling Theory and Agency Theory to create factors linked to business attributes while also investigating the impact of business attribute groups on the scale of sustainability report publication (Ho et al., 2007; Aman et al., 2015...). The regression analysis results suggest that the scale of the sustainability report is larger for firms with a large scale, low profitability, and low liquidity, as well as those working in the manufacturing sector (Ho et al., 2007). Furthermore, Aman et al. (2015) noted that the industry has an impact on the sustainability report. Because of the nature of the risk provided, the quality of sustainability reporting information varies between industries.

Based on those studies, a positive relationship between firm size and sustainability reporting can be expected. Therefore, the hypothesis proposed by the authors is as follows:

*H1: Firm size positively affects sustainability reporting.*

According to Watts and Zimmerman (1978), firms in the same industry will reveal information of the same level, quantity, and nature; if any business deviates from this, it will be regarded negatively. The parties' push motivates firms to reveal more information. The information will serve as the foundation for ensuring business owners' trust in how the manager's actions are carried out, consequently lowering agency expenses and developing control systems. Such data is a signal that managers want to send to the community and society that they are running the business by the expectations and standards that people set, hence lowering the operating costs of local government agencies (Oyelere et al., 2003). That is also the content of representation theory and signal theory.

Previous studies support the above arguments (Gul & Leung, 2004; Oyelere et al., 2003) that companies operating in different fields will not be the same when disclosing information, however, there are still some results that do not reach the level of significance (Craven & Marston, 1999; Larrán Jorge & Giner, 2002).

Based on those studies, a positive relationship between areas of activity and sustainability reporting can be expected. Therefore, the hypothesis proposed by the authors is as follows:

*H2: Field of activity positively affects sustainability reporting.*

Li et al. (2011) based their research on published sustainability information of the top 100 companies in the global forestry industry. Regression results show that the difference in territories, regions, and regions does not affect the implementation of sustainable development reports. In addition, Li et al. (2011) concluded that sustainability information disclosure at companies in the forestry industry is affected by appearances in the mass media, but not by profits when determining a sustainable development strategy.

However, different from previous studies, the study of Amran & Haniffa (2011) relies on Institutional Theory to identify factors affecting sustainability reporting. The authors use the interview results to determine the influencing factors. Then, using regression analysis, the study concludes that the industry, company goals, and business size affect the implementation of sustainability reports of enterprises.

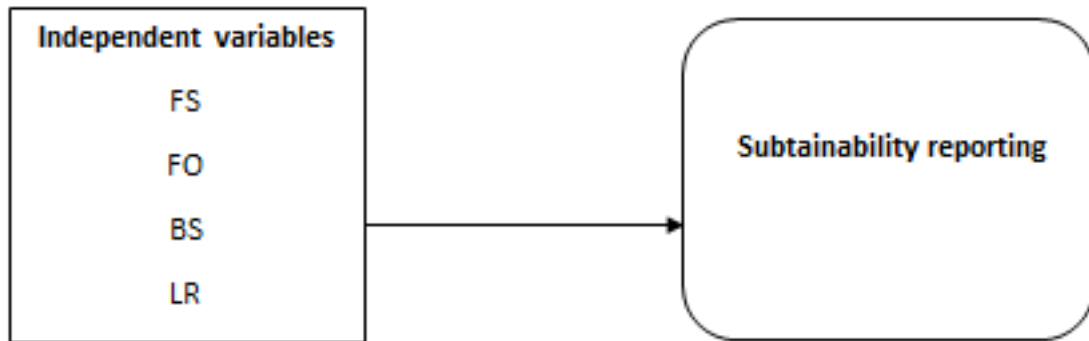
Based on those studies, a positive relationship between business sectors and sustainability reporting can be expected. Therefore, the hypothesis proposed by the authors is as follows:

*H3: Business sectors or activities positively affects sustainability reporting.*

Based on Signaling theory and Legitimacy theory, Ioannou & Serafeim (2016) study the impact of regulations and laws on corporate sustainability reporting. The results show that the companies that have been dealt with increase their willingness to perform assurance services, which will increase the reliability of information disclosure, and at the same time increase their willingness to comply with development reporting guidelines sustainability will increase the comparability of that information. Previous research has indicated that institutional structures have an important influence on the disclosure of sustainability reporting. Evidence reveals that institutional forces such as government laws continue to be a significant motivator for corporations in China and Malaysia to produce sustainability reporting (Othman et al., 2011; Zheng et al., 2014). The more stringent, comprehensive, and explicit the legislative restrictions, the more reliable the information in the sustainability report.

Based on those studies, a positive relationship between legal regulation and sustainability reporting can be expected. Therefore, the hypothesis proposed by the authors is as follows:

*H4: Legal regulation positively affects sustainability reporting.*



The relationship firm size, field of activity, business sectors, legal regulation with sustainability reporting of is shown in the following two models:

$$SR = \beta_0 + \beta_1FS + \beta_2FO + \beta_3BS + \beta_4LR + \varepsilon$$

Dependent variable: Sustainability reporting

The independent variable consists of 4 variables:

Variables (X<sub>it</sub>): Firm size (FS), field of activity (FO), business sectors (BS), legal regulation (LR).

**$\varepsilon$  is the error.**

#### 4. RESEARCH METHODS

The development of the measurement scale begins with the observations of observed variables presented from previous studies, summarizing the factors and proposing a model that affects the sustainability reports of enterprises. To collect as many relevant articles as possible from the existing literature, the authors conducted keyword searches of relevant electronic databases for previous studies. The authors access prestigious websites such as ProQuest, Science Direct, Emerald, Springer... with keywords: sustainability report, globalization, sustainability report, sustainable development model proposal. Since then, the authors have selected high-quality studies close to the research focus and proposed a model that affects the sustainability reports of enterprises.

According to the group of authors, the variable SR is proposed as a categorical dependent variable. The authors, when performing survey analysis on the website to see if companies have published sustainability reports, the value received when making the survey results of this variable “Yes” (encoded as 1 ) or “None” (encoded as 0). For the independent variable Firm size (FS), the authors propose to be measured by the logarithm of total assets because it represents the production capacity of the enterprise or measured by the revenue representing the consumption capacity of the enterprise. For the field of activity (FO) independent variable, the authors suggest that future authors should be divided into two groups, either with state capital contribution or no state capital contribution. This is the control variable. We included the confounding factor but did not test this

variable. For the business sectors (BS) variable: The authors propose it after synthesizing statistics from the selected sample. The authors should make the classification of occupations into one of two groups (either environmentally sensitive or less sensitive to the environment). According to previous studies, the following industries belong to the group of environmentally sensitive: Mining and natural resources; Chemistry; Oil and Gas; Commodity production; Paper industry; Furniture (Deegan & Gordon, 1996; Frost & Wilmshurst, 2000). Industries outside this group belong to the other group. The 4th independent variable legal regulation (LR): According to the authors, this independent variable should be divided into 2 groups with the application of laws or without the application of legal regulations. Based on previous studies by Ho et al., 2007; Aman et al., 2015; Li et al., 2011; Amran & Haniffa, 2011 for testing.

## 5. CONCLUSIONS

The research found four elements in sustainability reporting via collection, selection, and construction activities: firm size (FS), the field of activity (FO), business sectors (BS), and legal regulation (LR). Based on these considerations, the authors developed a model that influences sustainability reporting in Vietnam in the context of globalization.

Studies on the factors affecting sustainability reporting are currently tending to lead to inconsistent results. Detecting and proposing factors affecting sustainability reporting is important and urgent. The research model proposed by the author above is a good opportunity for future studies to make practical contributions in the field of sustainable development reporting in Vietnam. However, in Vietnam, research on sustainability reporting is still limited.

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# ATTRACTING FDI INTO PROCESSING AND MANUFACTURING INDUSTRY TOWARD THE GOAL OF SUSTAINABLE ECONOMIC GROWTH IN VIETNAM

Dr. Pham Van Nghia<sup>1</sup>, Dr. Dong Thi Ha<sup>2</sup>, MA.Vu Thi Thanh Huyen<sup>2</sup>

**Abstract:** *The processing and manufacturing industry is a sector with high labor productivity compared to the general productivity of the whole economy and it is currently making a significant contribution to the economic growth rate thanks to attracting the majority of FDI capital and contributing mainly to Vietnam's export growth. FDI attraction in 2021 exceeded 31 billion USD, the processing and manufacturing industry reached more than 18 billion USD. However, the results of attracting FDI into the processing and manufacturing industry so far have been still limited, and it has not really brought into full play the potential of the industry with the goal of sustainable growth. In this study, the author analyzes and evaluates the current situation of attracting FDI into the processing and manufacturing industry in Vietnam, thereby proposing policies and measures to promote the attraction of FDI into the industry in order to achieve the goal of sustainable economic growth in Vietnam.*

**Keywords:** *FDI; manufacturing and processing industry; economic growth; sustainable economic growth.*

## 1. INTRODUCTION

FDI plays an important role in the economic growth of developing countries. FDI not only contributes to economic growth through capital and technology transfer (Blomstrom et al., 1996; Borensztein et al. 1998) and the accumulation of human capital through training courses on labor skills for the host country (De Mello, 1997), but it is also the driving force to promote competition for domestic enterprises. A developing country like Vietnam totally needs the positive spillovers of the FDI sector to take advantage of external capital sources, thereby promoting economic growth, investment in education, at the same time, paying attention to social security and environmental protection. In recent years, the processing and manufacturing industry has always been the leading industry in attracting FDI. According to statistics of the Foreign Investment Department, FDI into Vietnam in 2021 was estimated at 31.15 billion USD, increased 9.2% over the same period in 2020; in which, the processing and manufacturing industry attracted more than 18 billion USD. The Ministry of Industry and Trade affirmed that the processing and manufacturing industry played a key role in the economy. The proportion of processing and manufacturing industry in GDP increased from 13% in 2015 to 16% in 2018. In 2019, the industry increased by 8.86% thanks to the processing and manufacturing industry which has played a key role in leading the

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overall growth of the whole industry and the economy (up 11.29%); processing and manufacturing industry contributed 16.48% to GDP. From there, it can be seen that it is urgent to attract FDI into the processing and manufacturing industry towards the goal of sustainable economic growth.

## **2. GENERAL THEORY ON ATTRACTING FOREIGN DIRECT INVESTMENT IN THE PROCESSING AND MANUFACTURING INDUSTRY TOWARDS THE GOAL OF SUSTAINABLE ECONOMIC GROWTH**

### **2.1. The basic concepts**

#### **2.1.1. The concept of foreign direct investment**

According to the IMF, a foreign direct investment is an economic organization (the direct investor) that acquires a lasting interest in an enterprise located in another economy. The purpose of the direct investor is to have a lot of influence in business management located in that economy. According to the Organization for Economic Co-operation and Development (OECD), a direct investment is made to establish long-term economic relationship with an enterprise, providing the ability to influence business management. In general, FDI is the investment by individuals and companies (mostly transnational and multinational companies) to build oversea establishments, branches and own all or each that part. This is a type of investment in which the foreign investors contribute a large enough capital to the production or provision of services, and it allows them to directly participate in the management and operation of the investment object in order to obtain higher profits through the implementation of production and business activities abroad.

#### **2.1.2. The concept of sustainable economic growth**

Economic growth can be understood as an increase in the ability to produce goods and services, or an increase in the size of the economy over a certain period of time, which is usually reflected in the percentage increase in real gross domestic product (GDP) (after adjusting for inflation), or the rate of increase in real per capita income. Sustainable economic growth is a modern concept to identify goals and good factors for an economy thanks to sustainable growth. Accordingly, growth is not simply understood as an increase in per capita income, but it must be associated with sustainable development, focusing on all three factors: economy, society, and environment. In order to maintain high growth rates in the long run, income growth needs to be associated with increased quality of life or increased welfare and poverty reduction.

#### **2.1.3. The concept of processing and manufacturing industry**

Processing and manufacturing industry is understood as establishments engaged in the mechanical, physical, or chemical transformation of raw materials, substances, or components into new products, as well as establishments engaged in the assembly of component parts of products manufactured for purposes other than construction (Marc Levinson, 2017). According to the Prime Minister's Decision No. 27/2018/QĐ-TTg on Vietnam's economic sector system, the processing and manufacturing industry (group level 1: C) includes 23 groups of level 2, specifically: food processing and production (10); beverage production (11); tobacco products (12); textile (13); costumes production (14); manufacture of leather and related products (15); wood processing and production of products from wood, bamboo, cork (except for beds, cabinets, tables and chairs),

production of products from straw and plaiting materials (16); production of paper and paper products (17); printing and copying records of all kinds (18); production of coke, refined petroleum products (19); manufacture of chemicals and chemical products (20); production of drugs, pharmaceutical chemicals and herbal ingredients (21); manufacturing products from rubber and plastics (22); production of other non-metallic mineral products (23); metal production (24); manufacture of products from prefabricated metal (except for machinery and equipment) (25); manufacture of electronic products, computers and optical products (26); manufacture of electrical equipment (27); manufacture of non-classified machinery and equipment (28); manufacture of automobiles and other motor vehicles (29); manufacture of other means of transport (30); manufacture of beds, cabinets, tables and chairs (31); other processing and manufacturing industries (32); and repair, maintenance and installation of machinery and equipment (33).

## **2.2. Theory of foreign direct investment and economic growth towards the goal of sustainable economic growth**

### **2.2.1. Exogenous growth theory**

The exogenous growth theory, commonly known as the neoclassical growth model or the Solow-Swan growth model pioneered by Solow (1956), has shown that capital, human capital and technology are input factors for economic growth. However, only consider factors in terms of quantity, and consider these as exogenous factors. Further study shows that endogenous growth theory has shown that FDI promotes economic growth in the long term through technology transfer channel and accumulates human capital through training courses on labor skills for the host country (De Mello, 1997). Barro and Sala-I-Martin (2004) proved that there is a positive relationship between economic concentration and capital accumulation over time. The exogenous growth theory holds that FDI increases capital in the host country and then drives economic growth towards a new steady state by capital accumulation. According to the exogenous growth theory, FDI affects economic growth through its impact on domestic investment (Herzer et al., 2008).

### **2.2.2. Endogenous growth theory**

By the mid-1980s, exogenous growth theory had become inadequate in explaining the determinants of long-run growth (Barro and Sala-I-Martin, 1995). Thus, endogenous growth theory, pioneered by Romer (1986), which focuses on two factors: Economic growth originates from human resources and then from technological change. Endogenous growth theory defines economic growth by introducing new technological production processes in the host country and FDI is assumed to be more efficient than domestic investment (Herzer et al., 2008). Therefore, FDI enhances economic growth through technology spillover, labor mobility, management skills training and organizational arrangement (Romer, 1990; Barro and Sala-I-Martin, 1995; De Jager, 2004). As a result, foreign investment can increase the productivity of the host economy and then FDI can be seen as a catalyst of domestic investment and technological progress. Theoretically, FDI can promote economic growth in different ways (Herzer et al., 2008). Some researchers believe that the effects of FDI on economic growth are expected to have two parts (De Mello, 1999; Kim and Seo, 2003). Firstly, FDI can affect economic growth through capital accumulation by introducing new goods and foreign technology. This view comes from the exogenous growth theory. Secondly, FDI can promote economic growth through research and development in the host country on

knowledge transfer. This view comes from the argument of endogenous growth theory. Therefore, FDI can theoretically play an important role in economic growth through increased capital accumulation, technology diffusion and progress (Herzer et al., 2008). This conclusion shows that FDI can contribute to economic development and promises potential benefits for development in the host country. In addition, the theory of eclecticism synthesized and developed by Dunning (1981) is another analysis of the relationship between economic concentration and FDI, that is, the attraction of FDI depends on the advantages of the host country, including: ownership advantage such as technology, capital, resources...; location advantage such as investment environment, low-cost labor...; and internalization advantage. Based on endogenous growth theory, eclectic theory, domestic and foreign researchers have applied to analyze the relationship between economic growth and FDI.

### **3. CURRENT SITUATION OF ATTRACTING FOREIGN DIRECT INVESTMENT IN THE PROCESSING AND MANUFACTURING INDUSTRY TOWARDS THE GOAL OF SUSTAINABLE ECONOMIC GROWTH IN VIETNAM**

#### **3.1. Overview of the current situation of foreign direct investment, processing and manufacturing industries and economic growth in Vietnam**

##### ***3.1.1. Reality of attracting foreign direct investment of Vietnam***

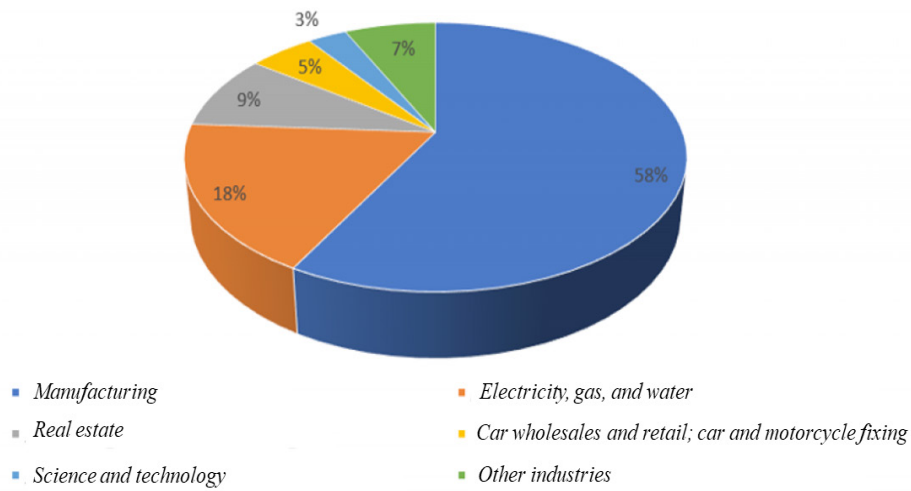
Impressive results have been achieved in recent years in Vietnam's FDI attraction. Over the past 10 years, annual FDI inflows into Vietnam have increased by nearly 1000%. According to the Foreign Investment Agency (Ministry of Planning and Investment), the total FDI registered in Vietnam in 2021, including newly registered capital, adjusted capital and capital contribution value and share purchase by foreign investors reached 31.15 billion USD, increased 9.2% compared to 2020. In which, foreign direct investment capital realized in Vietnam in 2021 reached 19.74 billion USD. At the end of 2021, the result of attracting FDI is considered to be the "bright color" of the economic picture, which has been heavily impacted by the Covid-19 epidemic in which many localities have overcome difficulties caused by the epidemic and implemented many solutions to make a breakthrough in attracting this important capital flow.

Regarding newly registered capital, there were 1,738 licensed projects with registered capital of 15.25 billion USD, down 31.1% in number of projects and up 4.1% in registered capital over the previous year.

Regarding adjusted capital, there were 985 times of projects licensed from previous years registered to adjust investment capital, increasing by US\$ 9.01 billion, up 40.5% over the previous year.

Regarding capital contribution and share purchase by foreign investors: There were 3,797 times with a total value of capital contribution of 6.89 billion USD, down 7.7% over the previous year. In which, there were 1,535 times of capital contribution and share purchase to increase the charter capital of the enterprise with a capital contribution value of 5.03 billion USD and 2,262 times of foreign investors buying back domestic shares without increasing charter capital with a value of 1.86 billion USD.

Vietnam’s GDP structure by industry (2021)



Source: General Statistics Office

In terms of the number of new projects, processing and manufacturing industry, wholesale and retail, professional activities, science and technology are the industries that attract the most projects, accounting for 30.7% and 28.1% respectively, and 16.7% of total projects.

FDI capital registered in Vietnam as of March 20, 2018 - 2022



(Source: GSO)

Total foreign investment capital registered in Vietnam as of March 20, 2022 including newly registered capital, adjusted capital and value of capital contribution and share purchase by foreign investors reached 8,91 billion USD, down 12.1% over the same period last year.

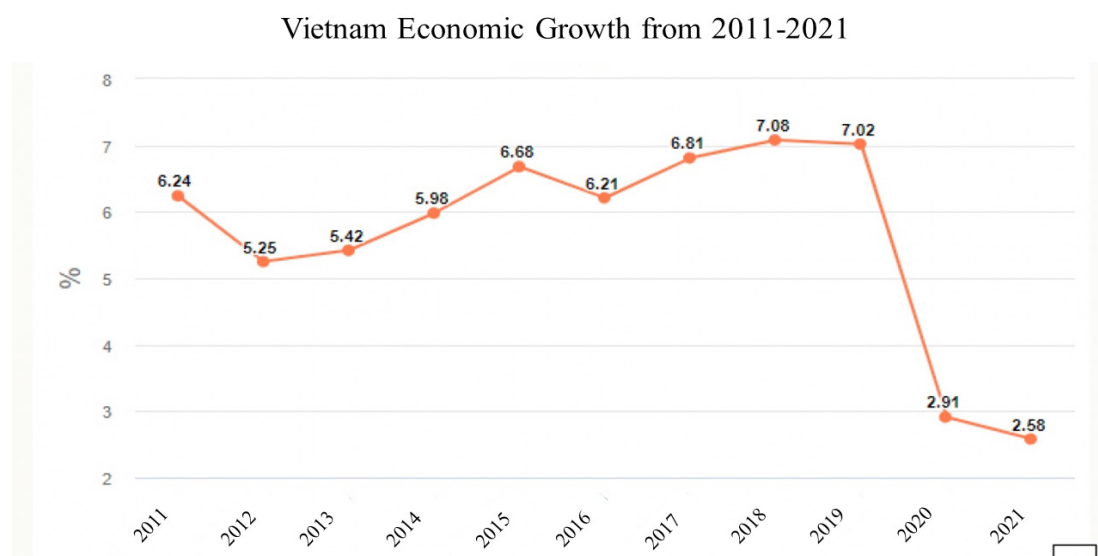
However, attracting FDI is still not methodical. Vietnam has not really been proactive, selective in attracting FDI projects with high technology content and strictly controlling pollution levels. Many FDI projects are in the form of raw manufacturing, high processing capacity, high

emissions, low added value, and lack of fundamental industries such as supporting industry and high technology. The capacity of some FDI enterprises to prevent, control and protect the environment is still inadequate. The spread of FDI inflow to economic sectors has not been commensurate with expectations. The level of localization in Vietnam is still low when the ratio of input imports to product value is mostly above the 50% threshold... FDI has made an important contribution to the realization of Vietnam's socio-economic development goals and strategies in each period, accounting for a significant proportion of GDP, leading to exports, as well as making an active contribution to the state budget, creating jobs and stable income for workers. FDI capital plays an important role in promoting Vietnam's economic growth. The contribution of the FDI sector in the country's GDP increased from 16.9% in 2008 to 19.6% in 2019. This is totally a significant contribution to Vietnam's economy in the context that Vietnam is a low-middle-income country. However, with investment accounting for 23% of total social investment in the year, but contributing only at 19.6% of GDP, it shows unsustainability and has not shown advantages in technology, market, and management skill... of FDI.

### 3.1.2. Vietnam's economic growth situation

2021 was the first year of implementing the 5-year socio-economic development plan 2021-2025, our country is making efforts to fulfill the goals set out in the plan. But the Covid-19 epidemic continued to develop complicatedly, causing negative effects on economic activities, in which the import and export of goods were seriously affected. These fluctuations and difficulties have made countries tend to use domestic products instead of imported products when implementing measures to close borders to prevent epidemics. Therefore, many countries have used trade protection measures and technical barriers to strengthen the protection of domestic products, especially agricultural and aquatic products.

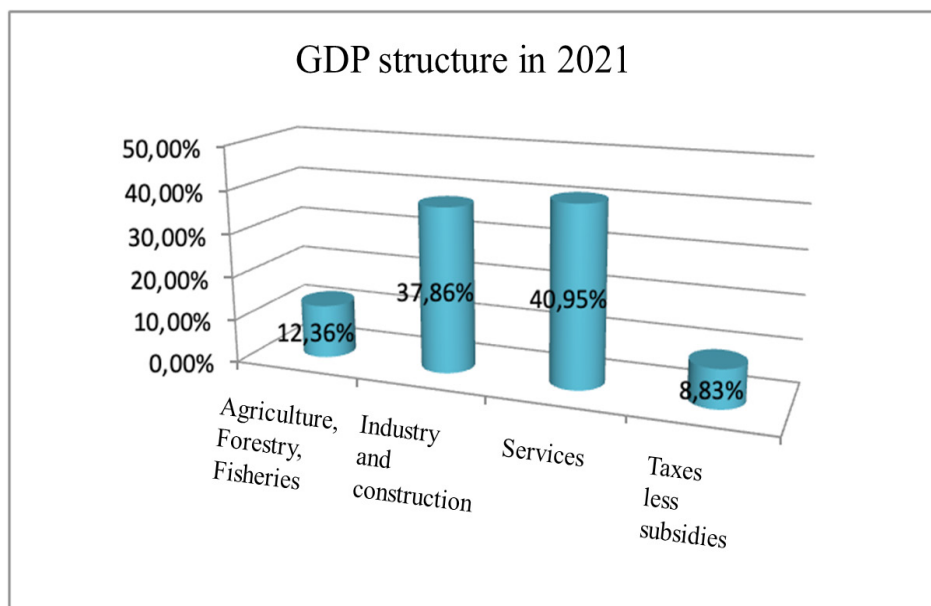
GDP growth for the whole year was only 2.58%, the lowest level in recent decades. In which, GDP growth in the third quarter recorded a negative number for the first time.



Source: General Statistics Office

In the general growth rate of the whole economy in 2021, the agriculture, forestry and fishery sector contributed 13.97% to the growth rate of total added value of the whole economy; industry and construction contributed 63.80%; service sector contributed 22.23%. Regarding the economic structure in 2021, the agriculture, forestry and fishery sector accounted for 12.36%; industry and construction accounted for 37.86%; service sector accounted for 40.95%; product tax minus product subsidies accounted for 8.83%.

In term of enterprise registration, the fourth quarter showed a clear improvement. Specifically, in the last 3 months of 2021, the number of newly registered enterprises reached 31,400 enterprises with a registered capital of 415,300 billion VND and the number of registered employees was 205,100 employees - an increase of 70.4% in the number of enterprises, an increase of 64.1% in registered capital and 24.7% in number of employees compared to the third quarter of 2021.



(Source: GSO)

In general, in 2021, there were 116,800 newly registered enterprises in the whole country with a total registered capital of 1.61 million billion VND and a total number of registered employees of nearly 854,000 employees. The average registered capital of a newly established enterprise in 2021 reached 13.8 billion VND.

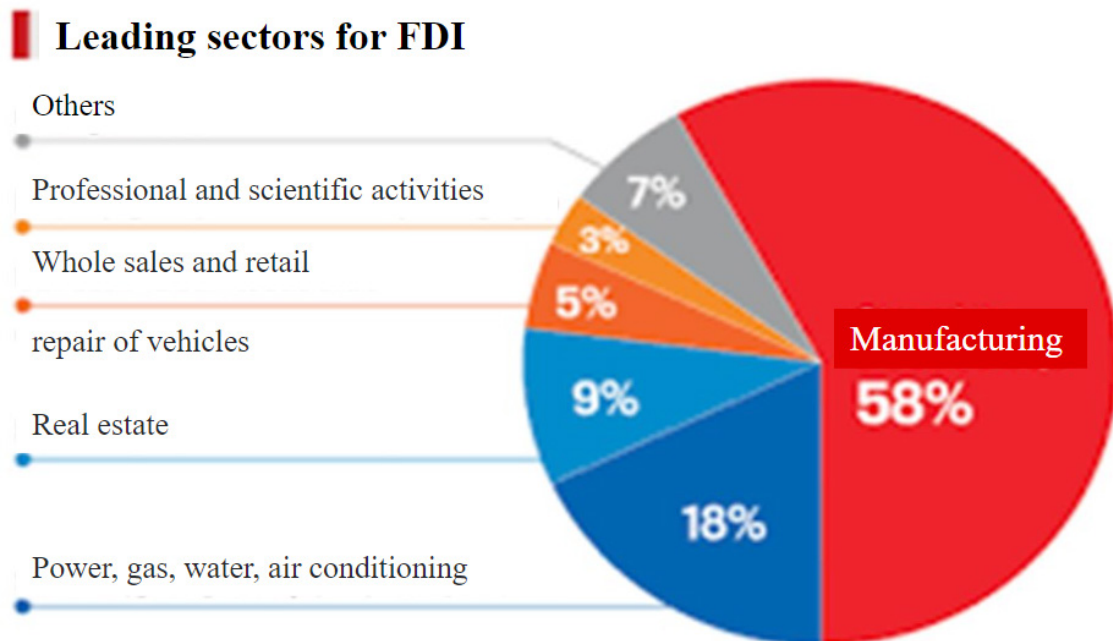
In addition, in the fourth quarter of 2021, domestic trade and transport activities, and international tourists gradually recovered. Total retail sales of consumer goods and services in the fourth quarter of 2021 increased by 28.1% compared to the previous quarter - estimated at 1.3 million billion VND. In general, in 2021, the total retail sales of consumer goods and services was estimated at VND 4.79 million billion.

The fourth wave of COVID-19 outbreak “severed” the global supply chain, negatively affecting Vietnam’s export activities. At that time, many experts and specialized agencies expressed their “impatience” for the growth target of the whole year. However, those worries were replaced by broken emotions when at the end of 2021, exports once again made a miracle.

With the annual export turnover of goods was estimated at 336,25 billion USD, an increase of 19% compared to the previous year, not only did export “break” the record of 282.65 billion USD of the whole year of 2020, but also brought Vietnam to become the 22nd largest export economy in the world. According to many economic experts, with this encouraging result, exports will continue to be a growth engine for the Vietnamese economy in 2022 and create more potential for enterprises to promote exports in the coming time.

### 3.1.3. Situation of the processing and manufacturing industry in Vietnam

In recent years, the processing and manufacturing industry has always played a key role in Vietnam’s economic growth and is the leading contributor to economic growth, export growth and FDI attraction.



Foreign investors have invested in 18 industries out of a total of 21 national economic sectors; in which, the processing and manufacturing industry takes the lead with a total investment of over 18.1 billion USD, accounting for 58.2% of the total registered investment capital. Although the electricity production and distribution industry has attracted a small number of new and adjusted projects as well as capital contribution to buy shares, there are projects with large capital scale, so it ranks second with a total investment capital of over 5.7 billion USD, accounting for 18.3% of total registered investment capital. Next, real estate business, wholesale and retail have a total registered capital of over 2.6 billion USD and over 1.4 billion USD, respectively. This shows the positive role of the processing and manufacturing industry in contributing to Vietnam’s economic growth.

The processing and manufacturing industry currently has the highest industrial production index among industries and it is higher than the general industrial production index of the whole economy. In 2019, the production index of the processing and manufacturing industry reached 110.4%, higher than the general level of the whole industry (109.1%); in which, a number of



processing and manufacturing industries have high production indexes such as metal production increased by 28.6%; metal ore mining increased by 25.9%; production of coke, refined petroleum products increased by 21%; printing and copying records of all kinds increased by 15.3%; production of rubber and plastic products increased by 14.3%;... On the other hand, the product consumption index of the processing and manufacturing industry has continued to increase in recent years. By 2019, the product consumption index of the whole industry reached 109.5%, with highly concentration on several industries such as: metal production; production of coke and refined petroleum products; printing, copying records; manufacturing products from rubber and plastic; ... By the end of 2018, the export of the processing and manufacturing industry accounted for 93.2% of the total export value. In general, the export proportion of some key products still belongs to the FDI sector. Some major export items include electronic goods, computers, and components; phones and accessories; footwear; textiles and raw materials of the textile industry; ... However, the processing and manufacturing industry is also accounting for a large proportion of the economy's import value, accounting for 88.7% in 2018. This shows the great dependence on imports in the production activities of the processing and manufacturing industry. In terms of trade balance, due to the large import rate, the trade balance of the processing and manufacturing industry often falls into a deficit. However, from 2016 to now, the trade balance has turned into a surplus, especially, in 2018, the processing and manufacturing industry had a trade surplus of 16910.3 million USD, showing a positive trend in the manufacturing activities of the industry.

### **3.2. The reality of attracting foreign direct investment in the processing and manufacturing industry towards the goal of sustainable economic growth in Vietnam**

Among economic sectors, the processing and manufacturing industry attracts the majority of FDI capital and contributes mainly to Vietnam's export turnover. The processing and manufacturing industry is one of the three groups that attracts the most FDI in the economy, next to the service and real estate industries. In recent years, the processing and manufacturing industry has always been the leading field in attracting FDI in Vietnam.

According to the Department of Foreign Investment, FDI of the processing and manufacturing industry has had a remarkable growth. The registered FDI capital of the industry in 2009 was 2.97 billion USD, increased nearly 10 times to 24,561 billion USD in 2019 and 18 billion USD in 2021.

In the period 2012 - 2016, the proportion of FDI in the processing and manufacturing industry compared to the total FDI capital of the entire Vietnamese economy increased strongly, accounting for 60-80%. From 2017 to 2019, the proportion of FDI in the processing and manufacturing industry decreased, but it has always been the industry with the highest proportion. Although there was a decline to 44.2% in 2017 and 46.8% in 2018, it increased again by 2019, accounting for 64.6% of the total FDI capital of the entire economy.

According to the Department of Foreign Investment; by the end of 2018, the processing and manufacturing industry attracted 57.5% of total FDI capital and 48.5% of projects (accumulation of valid projects) of the economy. Also, according to statistics of the Foreign Investment Department, the accumulation of valid projects until December 20, 2019 of the processing and manufacturing industry were 14,422 projects with a total registered investment capital of 214.175 billion USD.

In 2019, the processing and manufacturing industry received the largest foreign direct investment license with the registered capital of projects reaching 12,093 billion USD, accounting for 72.2% of the total newly registered capital. The number of registered projects also had a remarkable increase from 385 projects in 2010 to 1,314 (an increase of nearly 5 times) projects in 2019. On average, in the period 2009 - 2019, the registered capital of projects increased by 20 - 30%. In 2015 and 2017, although there was a decrease in the number of registered projects compared to previous years, the amount of investment capital still increased. However, it can be seen that FDI into Vietnam is mainly in simple labor-intensive industries such as garment and footwear. FDI enterprises mainly focus on processing and assembling activities, raw materials which are mainly imported from abroad, so the added value is still low (CIEM, 2017). For high efficiency of FDI projects in the processing and manufacturing industry, Vietnam needs to be “stricter” in choosing FDI projects to invest in this field. It is necessary to refuse projects with outdated technology, using a lot of labor, causing environmental pollution, and wasting resources and aim to attract large projects of multinational corporations, with strong financial potential, modern technology, low labor usage and high added value.

#### **4. SOLUTIONS TO PROMOTE FOREIGN DIRECT INVESTMENT ATTRACTION IN THE PROCESSING AND MANUFACTURING INDUSTRY TOWARDS THE GOAL OF SUSTAINABLE ECONOMIC GROWTH IN VIETNAM IN THE COMING PERIOD**

Firstly, it is crucial to strongly promote skill supply to ensure FDI attraction. Investors in the processing and manufacturing industry in particular and in all industries in general reported that the lack of necessary skills in the industry (technical skill, language skill, soft skill) was the leading barrier to growth, and this led to the pressure on increase wages. Skills provision can be considered as one of the most important issues that need to be addressed in order to maintain competitiveness and attract FDI into the industry. At that time, the processing and manufacturing industry must immediately conduct a national survey on supply and demand by industry and regularly update it. Implementing a national coordination program: conduct a multi-dimensional state-enterprise cooperation program that combines many contents, from short-term vocational training/conversion courses, improving linkages between educational institutions - enterprises and visa issuance based on skills to long-term education reform and FDI in the education sector by leading global organizations. Special attention should be paid to language skills and soft skills, which should be integrated into all vocational and university training programs, as well as giving universities and training institutes more autonomy to meet business demand and collaboration opportunities. It is necessary to promote innovation and creativity at the same time as skills; Attracting individuals who come to Vietnam to work with business know-how, ideas and skills is important for attracting FDI and technology transfer as for attracting companies with capital. Promoting research and application in the country, attracting businesses and brains from abroad requires a similar synchronous national research and application strategy, combining incentives to encourage research and application in universities, private and state economic sectors, start-up sponsorship, support SMEs...

Secondly, it is necessary to introduce “Business environment 4.0” in accordance with the needs of businesses in the digital era. Vietnam’s business and service environment has not kept pace with the development of the private sector. A number of practical barriers and knowledges

in terms of investment approval licensing procedures, outdated regulations and processes, poor investor protection... are hindering FDI investment in the processing and manufacturing industry. Improving the business for all investors requires setting big goals, moving from “following” to providing an investment and business environment that is superior to other competitive destinations in the region. It is vital to replace outdated paper-based regulations and systems with digital/online solutions - thereby reducing corruption (which is still seen by investors as the top barrier to growth), replace the outdated positive list for determining conditions for licensing/preferential enjoyment, including multiple groups of priority/permitted activities, with the more limited negative list. Removing implicit incentives for export-oriented FDI and new investment – joint ventures and FDI enterprises in local supply chains often have a greater impact on value addition and technology transfer in place.

Thirdly, it is necessary to increase internal resources of processing and manufacturing enterprises. Enterprises in the processing and manufacturing industry need to actively innovate technology and production scale; On the other hand, the authorities need to remove the “capital thirst” for businesses, actively seek and approach businesses that need capital to innovate production technology. From there, it is crucial to develop investment solutions and effectively use loan capital. In addition, it is necessary to promote the development of the domestic distribution system to lead and facilitate the development of Vietnamese products. On the contrary, businesses also need to be more proactive in accessing loan capital to shorten the gap from loan demand to actual loan disbursement. Vietnamese enterprises need to effectively implement financial transparency, production activities and have a sustainable development strategy.

Fourthly, it is necessary to improve policies to attract investment capital. The Government has introduced many preferential policies to attract investment in order to increase the processing rate of key agricultural and aquatic products, and to apply international standards in the production and processing process, from there, building a brand and competitiveness for Vietnam’s agricultural, forestry and fishery products. Specifically, general incentives will include exemption from import tax on machinery, materials, specialized means of transport, materials that cannot be produced domestically, raw materials for processing or processing export products, etc. As for the food processing sector, in addition to the general incentives, businesses will enjoy a preferential tax rate of 10% for corporate incomes invested in the field of post-harvest processing of agricultural products, preservation of agricultural and aquatic products and food. Enterprises will also be supported in human resource training, market development and application of science and technology. The Government has directed the provinces and cities to re-plan the area of agricultural raw material, in combination with redefining the long-term land-use plan for each foreign investor project in the fields of agriculture and agricultural and food processing. As for Vietnamese enterprises, in order to increase their competitiveness and penetrate deeply into the world market, it is necessary to better comply with food safety and hygiene standards, invest in modern equipment, and improve costs as well as product quality. In addition, Vietnamese enterprises must actively approach the distribution system and purchasing partners to discuss and increase their business opportunities.

## 5. CONCLUSION

Vietnam is a developing country, the accumulation level for investment is still low. Therefore, taking advantage of FDI resources for the development of the economy in general and of the processing and manufacturing industry in particular is very necessary. To take advantage of opportunities, the processing and manufacturing industry needs to change policies to encourage and promote investment, and at the same time it needs a strategy and long-term orientation to attract FDI; thereby promoting economic growth towards sustainable economic growth.

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# RELATIONSHIP BETWEEN RENEWAL ENERGY CONSUMPTION AND ECONOMIC GROWTH IN VIETNAM

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**Abstract:** *The relationship between energy consumption and economic growth provides quite different conclusions about the impact of energy consumption on growth. This paper studies the relationship between renewable energy consumption and Vietnam's economic growth in the new period from 1990 to 2018 using an auto-regression distributed lagged model. Yearly data from 1990 to 2018 of Vietnam's renewable energy consumption (% of total final energy consumption) representing renewable energy consumption, denoted by variable RE and GDP growth (annual %) representing the economic growth variable, denoted by GDP. The data is collected from World Bank database. The results show that, both in the short and long term, renewable energy consumption has a positive impact on economic growth. Therefore, for sustainable growth, investment in renewable energy consumption is a channel that needs attention from the Government.*

**Keywords:** *Renewable energy, economic growth.*

## 1. INTRODUCTION

Fuel and energy resources are the basic resources to meet the socio-economic development needs of each country, but also pose many challenges. The relationship between energy consumption and growth has attracted the attention of many studies. Most studies vary in their use of econometric methods, country data, time periods and empirical results. Many studies have shown that the use of traditional fossil fuels (coal, natural gas, oil) leads to economic growth. However, overuse of non-renewable resources releases large amounts of CO<sub>2</sub> into the environment, leading to the greenhouse effect, and does not lead to sustainable growth.

Currently, reducing global greenhouse gas emissions has become a major global goal for an environmentally sustainable environment. Due to the increase in energy consumption and CO<sub>2</sub> emissions, economists and policy analysts have turned their attention to the use of renewable energy instead of traditional energy consumption.

Therefore, in the system of research literature on the relationship between economic growth and energy consumption, the number of studies on renewable energy consumption in recent years has increased but is still modest in quantity. Some domestic and foreign researches related to this topic can be mentioned as follows.

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Regarding international studies, Chontanawat et al. (2008) assert that energy plays an important role in economic development. Thus, like many other studies, the authors investigated the causal relationship between energy and economic growth using a dataset of more than 100 countries. Energy-to-GDP causality is more common in developed OECD countries than in non-OECD developing countries, implying that a policy of reducing energy consumption aimed at reducing emissions is likely to have a larger impact on the GDP of developed countries than developing countries.

Hu et al (2014) analyzes the relationship between economic growth, energy and environment in China. Specifically, the authors studied the interaction between the Chinese economy, energy production and consumption, and the impact of concurrent air emissions from 2000 to 2011. The results show China's rapid rate of economic growth spurred a massive expansion in energy production and consumption, which led to an increase in the impact of emissions during the period studied. During the study period, the energy production and use efficiency and the structure of the energy sector improved; Fossil energy, mainly from coal, still accounts for the main proportion in energy production and consumption of the whole country; most of the impacts of energy-related emissions are derived from their impact on human health. In general, China's economic growth remains highly dependent on energy-intensive industries, putting great pressure on energy supply and pollution control. Although China has made clear progress in optimizing its energy mix for energy savings and emission reduction, the rate of improvement is still lower than the rate of economic growth.

Luqman et al. (2019) analyzes the asymmetric impact of renewable energy and nuclear energy on economic growth by expanding the production function along with labor and capital for the Pakistani economy. The study uses a nonlinearly distributed lagged auto-regression model with annual data for the period 1990–2016 to extract reliable data. The results show that there exists asymmetric co-integration among the variables. The results provide evidence that positive and negative shocks to renewable energy and nuclear energy variables will have a positive impact on economic growth. Furthermore, capital formation contributes positively to economic growth. In addition, two other conventional models were constructed to investigate the disproportionate effects of economic growth, oil prices, oil consumption and CO<sub>2</sub> emissions on nuclear and regenerative energy consumption. The results show that oil consumption leads to a negative impact on renewable energy consumption while nuclear energy consumption is neutral. Oil prices have a neutral effect on renewable and nuclear energy consumption.

Gyimah et al. (2022) discusses environmental quality and economic prosperity, renewable energy consumption. The authors study the case of Ghana - a country endowed with a plethora of renewable energy sources. However, Ghana depends on non-renewable energy to fuel its economy. This study analyzes the direct and indirect effects of renewable energy on economic growth using both Granger causality and the median model in the analysis based on data from 1990 to 2015. The variables used for this study are renewable energy, gross domestic product, foreign direct investment, total capital formation and trade. The results show a feedback effect between economic growth and renewable energy consumption, but renewable energy consumption has no significant indirect effect on economic growth. Renewable energy has a significant overall impact

on economic growth. Therefore, the increase in renewable energy consumption has a positive impact on economic growth.

With typical domestic studies, Bui Ngoc Hoang & VuongDuc Hoang Quan (2018) test the causal relationship between electricity consumption and economic growth for Vietnam in the period from 1980-2014. The article applies the ARDL delay distribution auto-regression method to test the co-integration between variables and analyze Granger causality according to the method of Toda & Yamamoto. The test results show that there is a long-term co-integration between the variables, and Granger causality analysis finds a one-way effect of electricity consumption on economic growth. The authors find statistical evidence that electricity consumption has a positive impact on Vietnam's economic growth both in the short and long term.

On the same topic, Vo Hong Duc and Nguyen Cong Thang (2021) explore the impact of energy consumption on economic growth in developing countries in the period of 1990-2019. The Pooled Mean Group (PMG) estimation used in this study aims to overcome the problems related to the dependence between the cross-observations in the panel data and the coefficient of heterogeneity. The results indicate that energy consumption contributes to economic growth in both the short and long term in developing countries. Moreover, a two-way causal relationship between energy consumption and economic growth is also found in this study.

Vietnam is located in the humid tropical monsoon region of Southeast Asia, with diverse energy resources such as coal, oil and gas, hydropower and other renewable energy sources such as solar energy, biomass energy, wind energy, geothermal energy, marine energy..., of which solar, wind and biomass energy has great potential. Actual economic development in recent years shows that fluctuations in fuel and energy are quite complicated, besides exporting coal and crude oil, Vietnam still has to import processed oil products and electricity. The current issue is how Vietnam's fuel and energy resources can not only meet the needs of socio-economic development in the coming years, but also export resources in the form of finished products, adapting to market fluctuations, ensuring long-term energy security for the sustainable development of the economy. In the global trend, in order to meet the needs of economic development in the coming years, especially from now to 2030, Vietnam has had scenarios for economic growth and energy demand forecast, set in the context of market economic institutions are fiercely competitive and effectively implement the green growth strategy in reducing greenhouse gases.

It can be seen that the available literature on the relationship between energy consumption and economic growth provides quite different conclusions about the impact of energy consumption on growth. Therefore, the nature of the relationship between energy consumption and economic growth in countries needs to be further studied, analyzed and evaluated carefully. The next part of the paper will present the research methodology and data used to elucidate the impact of energy consumption on economic growth with the situation of Vietnam. With the same ideas and methods as in Bui Ngoc Hoang & VuongDuc Hoang Quan (2018) and Luqman et al (2019), the author will study the relationship between renewable electricity consumption and economic growth in Vietnam in the new period from 1990 to 2018 using a lagged distribution auto-regression model, the method has been proven to be suitable for the research topic as done by local and international studies. The new point in this study is the updated research data, used to verify the research problem in the new

period. The rest of the article is structured as follows: Section 2 presents the research methods and data, Section 3 the research results, and finally the Conclusion in Section 4.

## 2. RESEARCH METHODS AND DATA

### 2.1. Research data

For empirical analysis, the author collects data series by year, from 1990 to 2018 of Vietnam's renewable energy consumption index in total final energy consumption (representing renewable energy consumption, denoted by variable RE, unit of %) and Vietnam's annual GDP growth index (representing economic growth variable, denoted by GDP, unit of %). The data are collected from World Bank database.

### 2.2. Auto-regressive Distributed Lag Model

Auto-regressive Distributed Lag (ARDL) Model is a combination of VAR (vector auto-regression) model and OLS (Ordinary Least Squares) (Nguyen Van Duy et al., 2014). This model was proposed by Pesaran et al. (1997). Pesaran et al. (1997) developed another method to find co-integration among variables based on ARDL model enhanced by level variables. Contrary to Engle Granger and Johansen's approach, no additional root units are needed because the test can be applied on both I(0) and I(1) variables. This is considered a major advantage over the ARDL approach.

$$\text{The mathematical model is: } D(GDP)_t = \alpha_0 + \sum_{i=1}^m \alpha_i D(GDP)_{t-i} + \sum_{i=1}^n \beta_i D(RE)_{t-i} + u_t$$

where  $D$  is the difference operator;  $\alpha_i, \beta_i$  are the regression coefficients and  $u_t$  are the residuals that are simultaneously correlated but not correlated with its lags and all the independent variables. Therefore, the right hand side of the regression equation includes the lags of the independent and dependent variables.

In this paper, the steps to apply the ARDL model on different frequency datasets are done through the following steps:

- (i) Testing for stationarity of time series
- (ii) Choose the maximum lagging order for each variable and fit the ARDL models from that maximum order down to 0. Estimate the ARDL models, together with the values of the Hannan-Quinn test to help select the optimal model.
- (iii) Select the best model among the estimated models and perform tests with that best model before using for analysis. The tests include: Autocorrelation test of residuals, test of model stability.
- (iv) To determine whether a long-run equilibrium exists between renewable energy consumption and economic growth, an envelope test is performed.



**3. RESEARCH RESULTS**

Table 1 below presents the results of statistical description of the variables studied in the model.

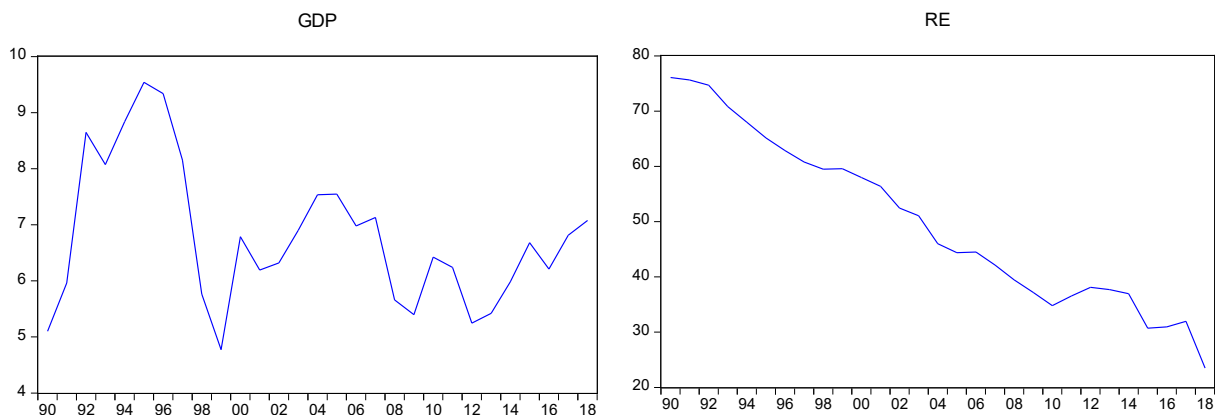
**Table 1. Descriptive statistics of research variables**

	GDP	RE
Mean	6.783986	49.85811
Median	6.679289	46.01850
Maximum value	9.540480	76.08164
Minimum value	4.773587	23.49180
Standard deviation	1.263746	15.30690
Asymmetry coefficient	0.584690	0.225035
Spike coefficient	2.584379	1.859342
Jarque-Bera	1.861066	1.816927
Probability value	0.394343	0.403143
Number of observations	29	29

*Source: Synthesized by author*

The statistical table shows the basic statistical values of each variable such as mean, maximum, minimum and standard deviation, in which, both research variables GDP and RE have no normal distribution. The following graph of each variable visually shows the movement of each variable during the research period.

**Figure1. Graph depicting the variation of variables in the model**



*Source: Drawn by The author from the collected data*

In addition to providing a visual picture of the variation of each variable, Figure 1 also helps us to predict the stationarity of the data series. It can be predicted that the variables GDP and RE are not stationary. The results of testing the stationarity of the time series are presented in Table 2 below:

**Table 2. The results of testing the stationarity of the series in the model**

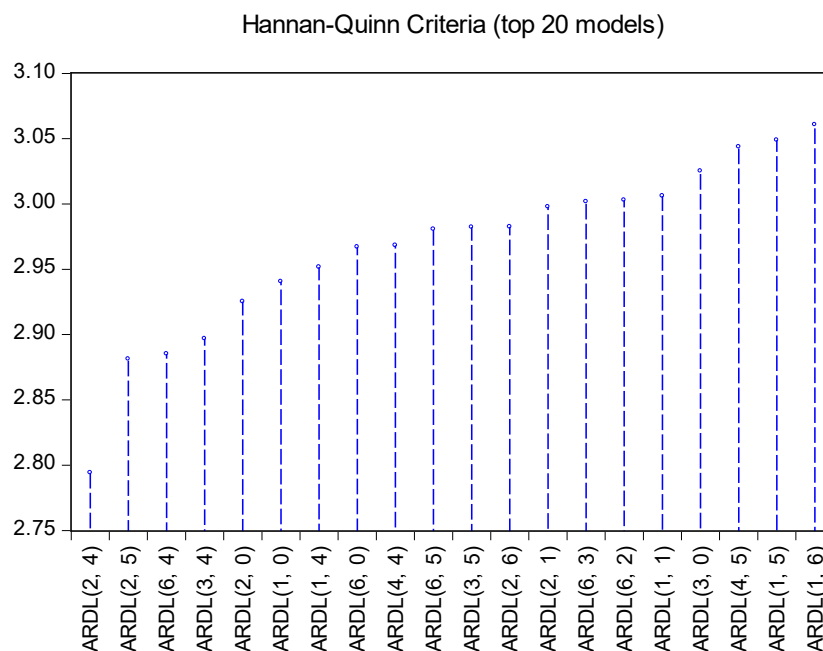
Test function form	Variables	Augmented Dickey-Fuller Value	Augmented Phillips-Perron Value
Initial Chain			
Has intercept	GDP	-2,50	-2,67*
	RE	-0,37	-0,31
Has intercept and trend	GDP	-3,05	-3,05
	RE	-2,32	-2,36
First-difference series			
Has intercept	GDP	-4,56***	-4,53***
	RE	-4,53***	-4,38***
Has intercept and trend	GDP	-4,46***	-4,41***
	RE	-4,38***	-4,10**

Note: \*, \*\*, \*\*\* denote variables with statistical significance at 10%, 5%, 1%.

Source: Author

The results of testing the stationarity of the series in Table 2 show that, with different levels of significance, the initial time series of the variables GDP and RE are not stationary, but the first-difference series of these variables are stationary. In other words, these variables are co-integrated of order 1, or denoted I(1). When the variables are co-integrated of order 1, the ARDL delay distribution auto-regression model is one of the suitable choices. And to ensure that the series fed into the model are stationary, first-difference series will be used, denoted by D(GDP) and D(RE) respectively.

The author estimates for the model with the maximum lag for all variables of 6, using Hannan-Quinn criteria to choose the best model.

**Figure 2. Hannan-Quinn criterion illustration to choose the optimal functional form for ARDL model**

Source: Author

The best model is the ARDL(2, 4) model. The results of this model estimation are as shown in Table 3.

**Table 3. Result of ARDL (2, 4) model estimation**

Variables	Regression	Standard Coefficient error	T-statistic	Probability value
D(GDP(-1))	0.115016	0.184658	0.622861	0.5422
D(GDP(-2))	-0.404928	0.180528	-2.243020	0.0394
D(RE)	-0.039456	0.075728	-0.521021	0.6095
D(RE(-1))	0.148192	0.090683	1.634180	0.1217
D(RE(-2))	-0.097540	0.092480	-1.054717	0.3072
D(RE(-3))	0.069687	0.090533	0.769744	0.4527
D(RE(-4))	0.308637	0.111450	2.769291	0.0137
C	0.514056	0.419276	1.226058	0.2379

*Source: Author*

To use the model in analysis, it is necessary to perform tests with the model. The first is to test the autocorrelation of residuals.

Hypothesis  $H_0$ : The model has no L order autocorrelation,

Theory  $H_1$ : The model has L order autocorrelation.

The results are presented in Table 4 below.

**Table 4. Breusch-Godfrey test results on autocorrelation of the model**

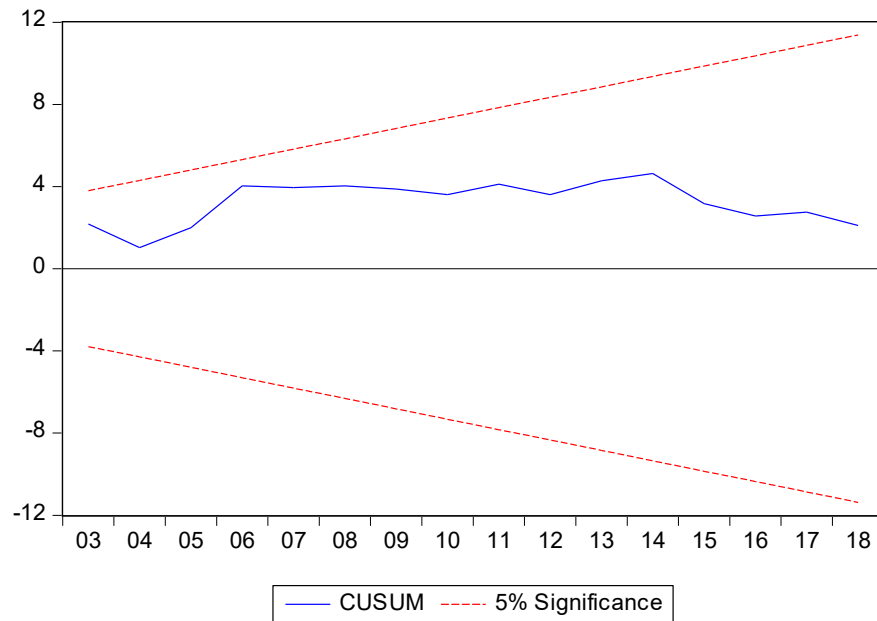
Order L	Statistical value F	Number of degrees of freedom	Probability value of test
1	0.19	(1, 15)	0.66
2	0.25	(2, 14)	0.78
3	0.63	(3, 13)	0.61
4	0.56	(4, 12)	0.69
5	0.42	(5, 11)	0.83
6	0.43	(6, 10)	0.84

*Source: Author*

The test results in Table 4 show the ARDL model does not have autocorrelation defect of residuals of order 1 to 6.

Residual test: Cumulative Sum of Residuals (CUSUM) as shown in Figure 3 is within the standard range corresponding to the significance level of 5%, thus, it can be concluded that the residuals of the ARDL model are stable and therefore the ARDL model is stable.

**Figure 3. Illustration of the cumulative sum of the residuals of the ARDL model at 5% significance level**



Source: Author

Test results Tables 5 and 6 show the existence of a long-run equilibrium between the variables in the ARDL model.

**Table 5. Results of co-integration test among variables in the model**

Form of co-integrated function				
Variables	Regression	Standard coefficient error	T-statistic	Probability value
D(GDP(-1), 2)	0.404928	0.180528	2.243020	0.0394
D(RE, 2)	-0.039456	0.075728	-0.521021	0.6095
D(RE(-1), 2)	0.097540	0.092480	1.054717	0.3072
D(RE(-2), 2)	-0.069687	0.090533	-0.769744	0.4527
D(RE(-3), 2)	-0.308637	0.111450	-2.769291	0.0137
CointEq(-1)	-1.289912	0.244490	-5.275938	0.0001
Cointeq = D(GDP) - (0.3020*D(RE) + 0.3985)				

Source: Author

Table 5 shows the existence of a co-integration relationship between the variables, expressed in a negative sign co-integration coefficient, which is -1.28 and has statistical significance at 1% significance level, with the probability value very close to 0, less than 1%. This proves that there exists a long-run equilibrium relationship between the selected variables. To confirm once again the existence of a long-run equilibrium between the variables in the model, the author performs the Bound test, giving the results as shown in Table 6 below.

**Table 6. Result of bound test with model**

F Statistical value	Number of independent variables	Critical values		
		Significance level	Lower bound I0	Upper bound I1
16.96	1	10%	4.04	4.78
		5%	4.94	5.73
		2,5%	5.77	6.68
		1%	6.84	7.84

Source: Author

The test results in Table 6 help solve the problem:

Hypothesis  $H_0$ : There is no long-run equilibrium relationship between variables,

Hypothesis  $H_1$ : There is a relationship long-run equilibrium between the variables.

And the result of the F-statistic is greater than the upper limit value of I1 at all significance levels, so at the 1% significance level, we can confirm the existence of a long-run equilibrium relationship between the variables.

Thus, summarizing, we get the short-run relationship between the variables as shown in Table 3:

$$D(GDP) = 0.11 * D(GDP(-1)) - 0.40 * D(GDP(-2)) - 0.03 * D(RE) + 0.14 * D(RE(-1)) - 0.09 * D(RE(-2)) + 0.06 * D(RE(-3)) + 0.30 * D(RE(-4)) + 0.51 + u_t$$

And the long-run equilibrium relationship is as shown in Table 5:

$$D(GDP(t)) = 0.3020 * D(RE(t)) + 0.3985 + u_t$$

**4. CONCLUSION**

The Regression Analysis results show that renewable energy consumption has an impact on economic growth. Therefore, policies and orientations for sustainable economic development need to pay attention to investment in renewable energy consumption.

From the estimation results of the first model in Section 3, Table 3, it can be seen that, in the short term, renewable energy consumption has a positive impact (shown in a positive regression coefficient, 0.308), but there is a lag of 4 years, which means, after 4 years, the impact will come into play (shown in the lagged level of the variable RE which is level 4). And in the long term, the relationship between renewable energy consumption and economic growth is still positive, reflected in the positive sign of the regression coefficient, 0.302.

From those experimental results, in order to stimulate sustainable growth through the renewable energy consumption channel, the following solutions can be mentioned:

*Firstly*, in the context of climate change mitigation and adaptation, implement the green growth strategy according to Decision 1393/QD-TTg dated September 25<sup>th</sup>, 2012, the strategic task with orientation to 2030 which is “reducing greenhouse gas emissions per year by at least 1.5-2%, reduce greenhouse gas emissions in energy activities by 20-30% compared to the normal development option”, Orientation to 2050 “reduce greenhouse gas emissions per year by 1.5-2%”.

*Secondly*, make the most of the available advantages of Vietnam's available fuel and renewable energy resources, on that basis, exploit the advantages to develop internal energy, ensuring competitiveness, not only for the domestic market but also for the regional and world markets.

*Thirdly*, to implement the Green Growth Strategy roadmap, the State needs to have mechanisms and policies to encourage more investment in technological process innovation in production and consumption, and to improve energy efficiency on the value of output products to achieve the target each year, reducing energy consumption per GDP in the range of 1-1.5%.

*Fourthly*, research and propose appropriate mechanisms and policies to encourage the use of renewable energy sources, first of all wind, solar and biological energy. In the short term, due to high investment and technology innovation costs, the output energy of these types of energy and fuel is still high, the State should continue to have policies to subsidize prices and reduce taxes to lighten the burden on investors. In the long term, it is necessary to develop renewable energy to gradually replace current energy sources, using too much fuel...

*Fifthly*, raise people's awareness in using and saving energy, which must become a culture and a voluntary consciousness.

*Sixthly*, in the context of market economic institutions, it is necessary to maximize economic tools and financial mechanisms in investment, exploitation and use of energy sources efficiently and economically. Additionally, use the management and control measures of the State, legal tools effectively.

*Last but not least*, mobilize resources to invest in energy exploitation and production according to market principles, especially internal capital.

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# DEINDUSTRIALISATION AND THE RELATIONSHIP WITH GLOBALISATION IN VIETNAM

MA. Nguyen Phuong Huyen<sup>1</sup>

**Abstract:** *Vietnamese manufacturing sector is in the process of industrialization; however, this sector experienced a wide range of shortcomings and difficulties, especially in the context of globalisation. Realizing the situation, this paper aims at examining the real situation of the manufacturing sector to conclude the ability of deindustrialisation in Vietnam by using national-level data and a regression model. The result presented that Vietnam suffered deindustrialisation; however, thanks to the appropriate policies and direct investment from multinational corporations, the situation has improved substantially. The result also pointed out drawbacks of some industries when the specialisation factors are included. From those results, domestic firms and the Government can improve policies for better sector and economic development.*

**Keywords:** *deindustrialisation, manufacturing sector, globalisation, specialisation, developing country.*

## 1. INTRODUCTION

On the one hand, the industrialisation process is so familiar to every people, especially people in developing countries, who are taught that their countries are living in the era of using industry as the driving force of both economy and society like Vietnam. The manufacturing sector is expected to account for the largest percentage of GDP and provides a wide range of employment. On the other hand, its opposite term, deindustrialisation, is rarely mentioned. The deindustrialisation phenomenon has happened for centuries in developed countries, whose industrial revolution happened a long time ago. This issue has been a concerning topic for economics and social researchers since the last century (Rowthorn, 1987; Alderson, 1997 & 1999; Saeger, 1997; Rowthorn, & Ramaswamy, 1999). In its nature, deindustrialisation is not always a bad sign for the economy. For developed countries, it is simplified as a movement of labour and value from the manufacturing sector to the service sector when the industry sector is fully developed with high productivity (Aldreoni et al., 2021; Nayyar et al., 2018).

In recent years, this topic is not as attractive in the developed world since almost all aspects of the problem were addressed. However, in some researchers' opinion, this topic would be expanded to apply to the case of developing countries to the extent that whether deindustrialisation's effect on the economy of developing countries is what happened to developed countries. Researchers in developing countries, including Asian, Latin American and South African are raising awareness about this problem.

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Developing countries are believed to inherit the technology development of developed countries and receive a wide range of support from international organizations such as the World Bank and International Monetary Fund (IMF) to promote manufacturing and economic growth. However, not all developing countries have the capacity to apply advanced technology because of natural conditions, and financial, political and human issues. Moreover, during industrialization, some developing countries have exploited too much of their natural resources and ignored the threat of environmental pollution and resource depletion. When the natural resources are depleted, they often struggle with their manufacturing and fall into the middle-income trap (Aldreoni et al., 2021). An undeveloped manufacturing sector cannot produce employment and value for the economy. Labour shed from this sector will move to service or move back to the agriculture sector. In this case, these developing countries are suffering from premature deindustrialisation, which will be clarified in the following section. If the problem of deindustrialisation is not addressed soon, its consequences would be more severe because unemployment leads to problems in many aspects, not only in the economy (Rodrik, 2016).

In the context of globalization, some developing countries may suffer more because of inappropriate direct investment (Hoyos López, 2017) or primary goods export (Castillo, & Martin, 2016). Moreover, globalisation could destroy the infant industry because the infant industry's production has lower productivity and poorer quality of products than those well-known industries. The credit given to products of the infant industry is less competitive in both domestic and international markets than famous-brand products. This destruction leads to the collapse of some parts of the industry and creates labour redundant in the manufacturing sector.

Vietnam is a developing nation under the industrialisation process; however, the manufacturing of Vietnam experience some shortcoming, including low-skilled labour, resource-intensive manufacturing, a lack of comparative advantage and the like. Under globalisation, the manufacturing of Vietnam has to compete with the neighbouring countries to maintain the amount of global market share. Testing the possibility of deindustrialisation in relationship with globalisation is essential to have an overview of the manufacturing sector and provide recommendations to ensure the industrialisation process and economic development of Vietnam.

## **2. LITERATURE REVIEW**

### **2.1. Deindustrialization phenomenon**

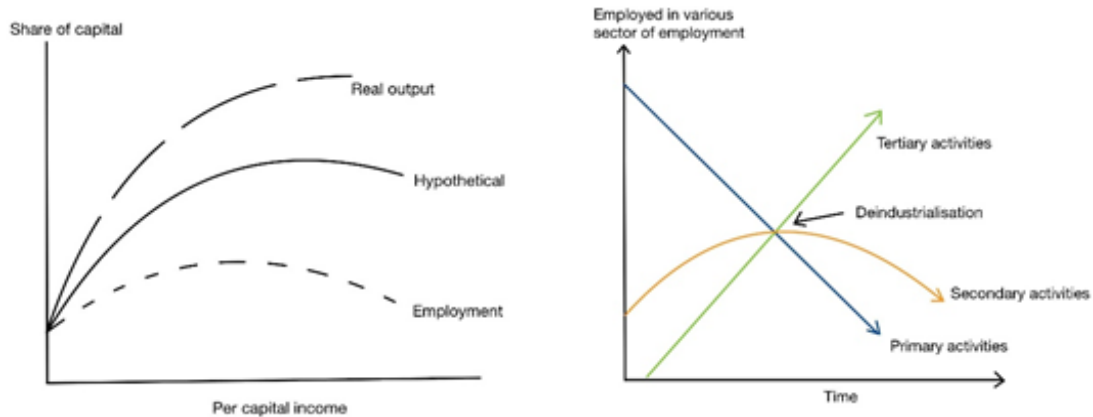
Deindustrialization is defined as the decline in the share of manufacturing employment in total employment (Alderson, 1997) and/or the share of manufacturing output in GDP (Rowthorn, 1999). The definition focused on employment is more popular and widely accepted in much later research. This phenomenon is a significant problem in Western countries, which have matured and fully developed industries. Therefore, Western countries, especially OECD countries (Organisation for Economic Co-operation and Development, most of them are developed countries) are the subject of almost all papers about deindustrialisation in the years the 80s and 90s.

According to Rowthorn (1987), there are two kinds of deindustrialisation, which are positive and negative deindustrialisation. Positive deindustrialisation is a phenomenon of economic success when the service sector quickly absorbs the redundant labour from the agriculture and industry



sectors. Negative deindustrialisation is the consequence of poor performance in the manufacturing sector. Due to it, the output quantity and productivity are lower and the industry sector cannot reach its full potential and full employment status.

Causes of deindustrialisation are often considered as economic development (maturity theory), globalisation and specialisation (Rowthorn, 1987). In terms of economic development, most authors based their research on the shape of an inverse U-shaped curve developed from Clark's sector model to explain their hypothesis.



**Figure 1. Changes in manufacturing share during economic development**

*Source: Rowthorn, & Ramaswamy (1999) and Clark (1940)*

Some drawbacks of Clark's sector model (1940) are that he used the time horizon to present economic development and only took employment share into account. Later research developed his model using per capita income to illustrate the development and included nominal and real manufacturing value share. The content of the sector model is that at the beginning of development, labour shed from agriculture (primary activities) is greater than the absorbing ability of the service sector (tertiary sector, including quaternary activities); therefore, redundant labour moves to industry (secondary activities). As development proceeds, the service sector continuously expands and absorbs the employees from agriculture until a certain point when the shift into services outweighs the shift out of agriculture. At this point, industrial labour starts to fall. They called it deindustrialisation.

The concave shape of the development curve is also explained by rapid productivity growth as result of research and development activities and the demand for manufactured goods. For instance, the share of manufacturing employment in the US had fallen relative to the production of services as the increased productivity and the real spending on manufactured goods decreased (Lawrence, & Edwards, 2013). In OECD countries, productivity growth results in a shift of employment out of a more dynamic sector (Saeger, 1997).

Under the econometric test, the decreasing trend in manufacturing employment is reflected through two variables, which are real GDP per capita and its square term to test whether the increase in national affluence will lead to deindustrialisation. These two variables are able to represent positive deindustrialisation. This baseline model was first developed by Rowthorn (1987) for the case of OECD countries. In the baseline model, there are other variables, including the unemployment rate to capture the negative deindustrialisation, and net manufacturing exports

per GDP to observe the specialisation effects. Many junior researchers, including Wood (1995), Alderson (1997, & 1999), Saeger (1997), Kollmeyer (2009) and Rodrik (2013, & 2016) conducted their research based on this model. Wood (1995) and Kollmeyer (2009) even emphasised in their paper the role of economic and productivity growth is outweigh other causes. They indicated that in the absence of globalization, deindustrialisation still happened as a consequence of national affluence and unbalanced productivity growth.

As stated in the Introduction chapter, deindustrialisation currently is not the problem of developed countries, it is the problem of developing countries as well, but the research on this aspect is not sufficient enough in numbers and methods. Among them, Dasgupta and Singh (2007) and Rodrik (2016) are outstanding researchers. They analysed the phenomenon through the dataset of developing countries, specifically Asian and Latin American countries. Most of them do not have a fully-developed manufacturing sector with a low level of productivity and a much lower level of GDP per capita than the case of developed countries. Dasgupta and Singh (2007) gave name to this phenomenon as premature deindustrialisation. They compared the impact of manufacturing and services on GDP annual growth. They applied a simple econometric model to compare the coefficient and significance level of manufacturing and service to GDP growth and mainly focused on the increasingly important role of service in the economy rather than proving deindustrialisation through the normal method of testing the reduction in employment as well as in manufacturing output. This is the deficiency of this paper when it assumes the deindustrialisation phenomenon happened.

Dasgupta and Singh's conclusion emphasized that developed countries successfully passed the phase of industrialization and far-reaching automation of manufacturing and moved to the third phase of service civilization when the tertiary sector dominates the total output of the economy; however, the developing countries at the moment tend to skip the second phase and direct to the third phase without developing automation and this is also what Rodrik (2016) believed. Rodrik (2016) added more details to the feature of premature deindustrialisation. He mentioned labour redundancy, which cannot be absorbed totally by other sectors. Additionally, the service sector is affected by the under-developed technology and low society income. If developing countries suffer premature deindustrialisation, their politics may become unstable, fragile and illiberal. The method of Rodrik was more complicated but still comprehensive. He did not assume the deindustrialisation phenomenon and built up his models concerning period dummy to respectively test the inverse U-shaped curve, deindustrialisation over time and premature deindustrialisation. He observed the situation not only in employment but also in output share at both current and constant prices, which may be ignored by other authors. Rodrik (2016) also suggested a test for the premature problem. He assumed the turning point of development happened in one certain period (post-1990) and separated the GDP per capita into two periods and used time dummy variables. Surprisingly, this turning point proved its role when the coefficients of income per capita and its squared terms are statistically significant and represented the trend of the concave curve. However, the way of breaking down the period may conflict with the Chow test because there might be no structural change break in the data before and after the point he broke down.

Despite his effort in clarifying the problem, the research of Rodrik did not satisfy some categories. He had transparent results but the theoretical framework is not so strong. According to

his own opinion, the test for premature deindustrialisation was somewhat arbitrary. Moreover, the model of Rodrik only approaches the deindustrialisation trend over time with socio-demographic control. It does not cover the relationship between deindustrialisation and trade or specialisation.

## **2.2. Effects of globalisation on deindustrialisation**

Another cause of deindustrialisation addressed by Rowthorn (1987) is globalisation. Globalization is always an attractive topic for both sociologists and economists since its effect is substantial in many aspects of a nation. It is difficult to assess globalisation as a whole; hence, researchers tend to separate it into two components, which are trade among countries and direct investment.

Since most of research is conducted for OECD countries, researchers preferred using North (developed countries) – South (developing countries) trade and outflow of direct investment as the direct effect of globalization.

### *North-South trade*

The role of North-South trade in the deindustrialisation process is still controversial in both theory and practice. Wood (1995) emphasized the North-South trade as a severe problem to the North. He argued that the expansion of trade with the South was one of the major causes of deindustrialisation in the North over the past few decades. Saeger (1997) also based his test on Wood (1995)'s book. He stated that manufacturing imports from the South had a statistically significant impact on the share of both manufacturing real value and employment share. North-South trade could account for around 25 to 30 per cent of deindustrialisation in OECD countries. On the contrary, Rowthorn and Ramaswamy (1997) proved through their test that trade is not the main factor leading to the decline in manufacturing employment in the North countries since the coefficient of the indicator "import from the South" is particularly small and statistical significance.

However, using the baseline test of Rowthorn (1987) and Alderson (1999) had a similar result to Saeger (1997). He added Southern import penetration per GDP. Deindustrialisation has been most serious in countries that experienced the largest increases in importation from developing countries. It means that Southern import penetration imposed a significant negative impact on manufacturing employment. The difference among results could be generated from the dissimilarity in the tested period and the number of countries, as well as the control variables. Rowthorn and Ramaswamy (1997) did not control negative deindustrialisation by unemployment indicator and consider the possible effect of direct investment.

In the practice of the US economy, Lawrence and Edwards (2013) showed actual shreds of evidence of the US trade. They mentioned manufacturing trade in general, not only North-South trade. The real number of trade and manufacturing employment revealed an interesting fact that the trade deficit in the US between 1998-99 and 2010 had very little effect on the total job. Two authors tried to explain this situation as the extraordinarily rapid growth in productivity of the manufacturing sector. Hence, over time whether the trade balance increase or decrease, the number of employments still goes down.

### ***Direct investment***

Direct investment is not as popular as North-South trade, but it is considered a part of the “globalisation gambit” (Bluestone, & Harison, 1988) and may contribute to deindustrialisation through several mechanisms (Alderson, 1997, & 1999). Previous research focused more on direct investment outflow since the subject is mostly North countries, which are affluent enough to invest out with the hope of getting more profit and interest. Due to the higher level of income, firms in these countries choose to invest in production lines in South countries to save on the cost of labour.

Direct investment played an important role in deindustrialisation as they had a significant negative relationship when Alderson (1999) examined through direct investment outflow per capita indicator. He also suggested investment may indirectly cause deindustrialisation by lowering the process of capital formation. As multinational enterprises tend to have a higher rate of return on foreign investment than domestic enterprises. According to this situation, domestic firms should desire a higher rate of return from domestic investment to catch up with the wealth of multinational ones or prefer following the tendency to maximize their profit. Less domestic investment leads to less job creation; thus, deindustrialisation happens. Alderson (1999) also emphasised that countries that experienced growth in direct investment outflow also experienced extensive deindustrialisation.

Kollmeyer (2009) had a different conclusion about direct investment. He indicated that the investment did not play an important role in deindustrialisation because the coefficient of outflow investment indicator was statistically insignificant and the value was nearly zero. In his opinion, multinational firms in the North did not invest in the production line and become owners of plants. They would like to find subcontractors to complete part of their products. Even though the subcontractors helped the manufacturing firms with non-manufacturing tasks, such as cleaning, the government still included them as manufacturing jobs. This action is considered a “relocation of duties along an increasingly complex commodity chain rather than an actual reduction in the level of manufacturing activity”. Apart from direct effects, as usual, globalisation also generates indirect effects on internal factors, including national affluence and unbalanced productivity growth. Trade not only directly impacts manufacturing employment but also impacts wealth and productivity growth, which are often combined into real GDP per capita.

Negative views of the effect of globalisation on the manufacturing sector of developed countries do not mean it will bring benefit to developing countries. Hoyos López (2017) included export and direct investment in his research model for Columbia. Interestingly, both of these indicators have a negative relationship with manufacturing output share. The reason behind this problem is that Columbia specialised in the energy mining sector. Most of the investment went to this industry instead of other industries with a high output value.

### **2.3. Specialisation**

Economic maturity and globalisation can be considered as the common factors promoting deindustrialisation; however, the problem of specialisation seems to be less significant than the other two because it can be included in the factor of globalisation. The specialisation decides whether a country can be a great manufacturing exporter or become an importer. Saeger (1997) based on the idea of Heckscher-Olin and Adam Smith’s theory to link specialisation and comparative advantage

to the change in production. Nations with abundant natural resources will tend to export resource-intensive products. A change that happens in natural resources would change their comparative advantage as well. Therefore, he included indicators such as the value of coal, mineral and oils production and worker with higher education in his model. Countries with abundant educated workers tend to move out industry sector to work in the service sector and the rich in natural resources tend to reduce the share of employment since labour was the second factor contributing to the production of resource-intensive products.

Castillo, & Martins (2016) indicated that some Asia countries focus on labour-intensive production while others produce knowledge-intensive products. Latin America focuses on natural-intensive sectors with low productivity. Additionally, one remarkable conclusion withdrawn from the study of Latin America is that countries specialising in primary goods often suffered premature deindustrialisation (Hoyos López, 2017; Castillo, & Martins, 2016).

### 3. DATA AND METHODOLOGY

#### 3.1. Data

Data used in this paper are data from Vietnam for 21 years from 2000 to 2020. They are macro secondary data and are available on the website of the World Bank (WB) and the International Labour Organisation (ILO). In terms of period, it is the first 21 years of the 21st century - a prosperous period for Vietnam, which is the result of Economic reforms called *Đổi Mới* in 1986, along with appropriate and solid economic policy and other exogenous factors, including lifted trade embargo with the US in 1994 and globalisation. Another noteworthy feature of this period is that Vietnam is better aware of updating and publishing national data. Therefore, the number of observations for the dataset is more sufficient. This feature assists researchers to run econometric models efficiently while approaching the problem more realistic and accurate. There are 11 indicators employed in the proposed model.

**Table 1. Descriptive statistics**

	Mean	Max	Min	Standard Error	Skewness	Kurtosis
Manufacturing nominal value per GDP	0.16774	0.20457	0.12946	0.00607	-0.1233	1.4370
Manufacturing employment share of total employment	0.14962	0.2308	0.0922	0.00905	0.67987	2.7448
GDP per capita	1.23E+10	2.71E+11	390.0933	1.23E+10	4.36435	20.047
Unemployment rate	0.018233	0.0276	0.01	0.00107	-0.3172	2.19362
FDI inflow per GDP	0.05551	0.09663	0.03390	0.00367	0.69797	3.0849
Manufacturing import per GDP	0.56472	0.77623	0.36519	0.02770	0.25301	2.0159
Manufacturing export per GDP	2.59413	7.83906	0.19796	0.54609	0.82465	2.3297
Medium&high-tech manufacturing per GDP	0.20378	0.54028	0.04326	0.03559	0.87373	2.4482
Food beverages per GDP	0.03671	0.06176	0.02056	0.00322	0.49647	1.9184
Textile clothing per GDP	0.09780	0.22203	0.03867	0.01171	1.08194	3.1733
Oil production per GDP	0.21715	0.22657	0.20910	0.00111	0.31297	2.2437

### 3.2. Proposed model

#### *Deindustrialization phenomenon*

Deindustrialization is mostly measured and observed through 3 main indicators, which are manufacturing employment, nominal and real manufacturing output as a share of GDP (at current price). Most of the research on deindustrialisation in developed countries focuses on manufacturing employment share, including Rowthorn (1987), Alderson (1999) and Kollmeyer (2009). Even premature deindustrialisation is assessed through employment shares as well (Dasgupta and Singh (2006), Rodrik (2013, & 2015), Castillo and Neto (2016) and Grabowski (2017) and so on). Moreover, changes in employment should be focused more than on the output market since assessing deindustrialisation is based on the cost of adjustment between sectors (Saeger, 1997). Meanwhile, Rodrik (2016) believed that deindustrialisation happens in not only employment share but also in GDP share of GDP at both current and constant prices. It is a promising idea to test deindustrialisation. Therefore, the model developed for this paper will focus on manufacturing employment share (% of total employment) with an additional model for the value share of manufacturing in total GDP at current US\$. Two indicators will be dependent variables, denoted as *Manufacturing\_employment* and *Manufacturing\_nominal*, respectively in the model. It is expected that if there has been deindustrialisation, the employment share and nominal value of the manufacturing sector will decrease over 20 years. Real manufacturing value share is not involved because there is a lack of available data at a constant price for other independent variables.

Nominal GDP per capita (log) and its quadric term (income and income<sup>2</sup>) corresponding to the income of Vietnamese people are taken into consideration as the first two dependent variables. They are able to capture the “maturity effect” (Rowthorn, & Ramaswamy, 1999). The result is expected to form the inverted U-shaped curve, as the share of employment in manufacturing first rises and then, after a certain point, starts to fall. The data available for real GDP per capita is not applicable for this paper as in previous research because the base year in calculation of this indicator is quite far from the starting year of the considered dataset. This problem makes it difficult to capture economic development. Real GDP per capita in the year before the base year is even higher than nominal GDP per capita. Instead, using nominal GDP per capita is acceptable as the inflation rate of Vietnam is quite low (under 5% in the past 5 years).

The reason for using logarithmic transformation for these variables in the model is that it can manage the situation of a non-linear relationship happening in a regression model. Moreover, this kind of transformation is “a convenient means of transforming a highly skewed variable into one that is more approximately normal”. Additionally, all variables used in proposed model are in the form of percentages. Results of variable with logarithmic transformation will be interpreted as 1% increases in this variable will lead to its coefficient divided by 100 increases in the dependent variables (Benoit, 2011).

The third independent variable, which has the same function as the above two variables is the unemployment rate. It is also used to evaluate the nature of deindustrialisation as it captures the failure effect of negative deindustrialisation. It is supposed to have negative and statistically significant coefficients in the relationship with 2 indicators of manufacturing share.

### *Effects of globalisation on deindustrialisation*

The main purpose of the test is the relationship between deindustrialisation and globalization. Manufacturing imports, export and foreign direct investment inflow are considered globalisation factors.

Manufacturing import and export per GDP (%) (Manu\_import and Manu\_export) are applied instead of North-South trade or net inflow of export to make it suitable in the case of a developing country like Vietnam. The importance of approaching the role of import and export separately is to compare their effect of them on manufacturing indicators. Whether the effect of imports outweighs exports or reverse is important in addressing the situation of the manufacturing sector. Results may also assist the situation of specialisation. To be more specific, if imports outweigh exports, the country could manufacture low-value products (primary goods) and import sophisticated products, which are unable to produce or produce inefficiently.

Foreign direct investment, net inflow per GDP (%) (FDI\_inflow) refers to direct investment equity flows in the countries. Only index of inflow, instead of net flow as in previous papers, because the main focus here is on Vietnam, a developing country with a lower-middle income economy. Developing countries like Vietnam rely on investment from developed countries to build infrastructure and buy technology to enhance the production of the manufacturing sector. When taking FDI inflow into account, people are able to evaluate how a country allocates foreign resources for manufacturing. It is expected that the higher investment will lead to higher manufacturing employment and nominal value share.

### *Specialisation*

Whether deindustrialisation happens or not, it is worth evaluating the specialisation situation in Vietnam to observe the contribution of different kinds of manufacturing to the employment share and value share. With the available data, medium and high technology manufacturing, textile, food and beverage and oil production are chosen to assess the specialisation in Vietnam.

Medium and high technology manufacturing per GDP (%) (Medium&hightech) refers to the contribution of manufacturing with the presence of medium and high technology. This variable indicated knowledge-intensive production. Meanwhile, food & beverage manufacturing per GDP (%) (Food\_Beverage) and textile and clothing per GDP (%) (Textile\_Clothing) presents the value of two labour-intensive industry to GDP. These two are considered the key industries in manufacturing sector in Vietnam. Finally, oil production per GDP (%) (Oil\_Production) presents the profit from crude oil production, accounting for how many per cent of total GDP. This variable is one of the most appropriate variables to describe natural-resource intensive manufacturing since Vietnam is rich in crude oil and trying to produce sophisticated oil products.

The proposed model is as follows:

$$Y_i = \delta_0 + \delta_1 \times income + \delta_2 \times income^2 + \delta_3 \times unemployment\ rate + \delta_4 \\ \times Manu\_import + \delta_5 \times Manu\_export + \delta_6 \times FDI\_inflow + \delta_7 \\ \times Med\&hightech + \delta_8 \times Food\_Beverage + \delta_9 \times Textile\_Clothing + \delta_{10} \\ \times Oil\_Production + u_i$$

$Y_i$ : Manufacturing nominal value per GDP and employment share per total employment

#### 4. RESEARCH RESULTS AND DISCUSSION

Two models qualified all model tests, including the goodness of fit ( $R^2 > 95\%$ ), no multicollinearity ( $VIF > 10$ ), no omitted variables and heteroskedasticity.

**Table 2. Estimated results for the proposed model**

Variables	Manufacturing_nominal	Manufacturing_employment
Income	97.490847	195.91982***
Income <sup>2</sup>	-7.451202	-15.099038***
Unemployment rate	0.57109	-.746764
FDI_inflow	-0.1866163	.42770032**
Manu_import	0.06325404	-.16076956***
Manu_export	-0.00176223	.07116726***
Medium&hightech	.23578107*	.2056224**
Food_Beverage	1.3492226	.34526862*
Textile_Clothing	0.71125771	-1.1649101**
Oil_Production	-6.6976707	4.9441843**

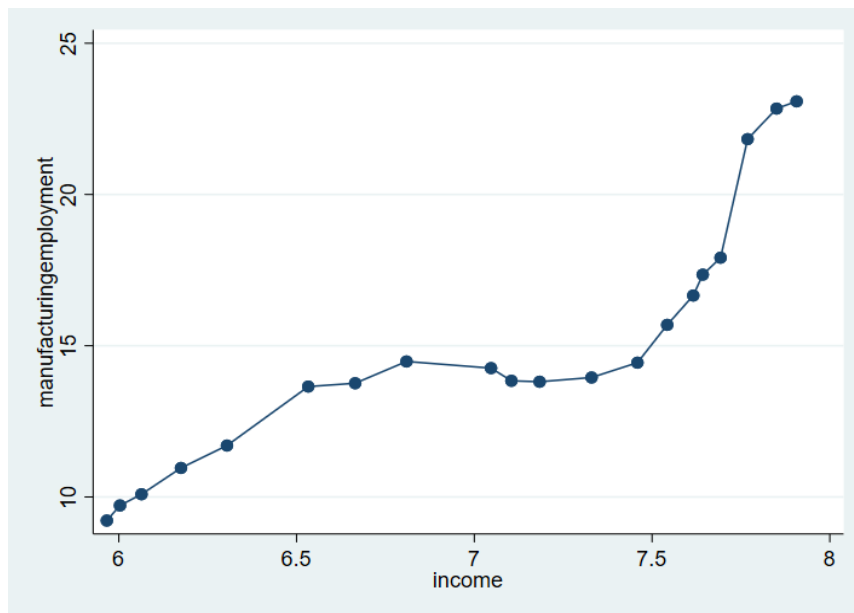
Note: \*  $p < 0.1$ : Significant level at 10 per cent; \*\*  $p < 0.05$ : Significant level at 5 per cent; \*\*\*  $p < 0.01$ : Significant level at 1 per cent

##### 4.1. Deindustrialization phenomenon

Interpreting the result of manufacturing employment is the main focus of this paper. All variables, except the unemployment rate, are statistically significant and satisfied with the theoretical expectation mentioned in the Methodology section. The result in nominal value of manufacturing is for preference to better clarify the general situation of deindustrialisation in Vietnam since most of the estimated results are statistically insignificant.

The sign of GDP per capita and its squared term represent the maturity effect in Clark's sector model (Figure 1). The positive relationship between national affluence and employment share of manufacturing will continue until a certain level of income. After that, the increase in national income will soon lead to a decrease in manufacturing employment share. From the value of the estimated coefficient, the turning point is calculated to be \$657, a quite low level of national income. Deindustrialisation in Vietnam took place quite early in Vietnam, around 2009. The estimated results are strongly supported by Figure 3. The curve represents the value of the first 12 years witnessed a concave shape. Nearly 4 years after the turning point, there is a recovery with a slow pace until a surge in 2018. After that, the pace was slow down again. From 2019 to 2020, the level of increase is not remarkable. It might be another turning point in the next 2-3 years, especially during 2021 and 2022, the effect of the Covid-19 pandemic is still severe.





**Figure 2. Relationship between manufacturing employment share and income (log)**

In case of the nominal share of manufacturing, values of two coefficients reflect the same trend. The turning point is not much different to the situation of employment share (\$694).

With this complicated situation in Vietnam, “rising levels of per capita income alone could never completely deindustrialize a country” (Kollmeyer, 2009); therefore, other variables’ roles are essential in evaluating the big picture of manufacturing and deindustrialisation in Vietnam.

#### 4.2. Effects of globalisation on deindustrialisation

##### *Trade*

Both import and export have statistical effects on manufacturing employment. However, import outweighs export as presented by the large difference in coefficient.

The problem, lying behind the negative relationship between manufacturing import and employment share is that Vietnam has to import products that cannot be domestically produced efficiently. The manufacturing import tends to be final products, instead of spare parts and components. Production in Vietnam cannot compete with the quality of products from other countries. This leads to stop production in some industries and employment decreased. One of the manufacturing products that proved this argument is smartphone production. Vinsmart and Bphone are considered two outstanding Vietnamese producers in the smartphone industry; however, Vinsmart was terminated in 2020 and B-phone is rarely sold and accepted in the market.

The positive relationship between manufacturing export and manufacturing employment share shows a promising potential of the sector. Exporting significantly stimulates manufacturing activities and slows down the deindustrialisation process. Unlike the case of Latin America in Hoyos López (2017) and Castillo, & Martins (2016), the exporting products of the Vietnamese manufacturing sector are not only primary products from mining. They would be products from the industry included in the model, which will be clarified later.

### *Foreign direct investment*

The positive relationship between manufacturing employment share and FDI value reflects the important role of FDI in this sector. 1% increase in FDI inflow value leads to a 0.42% increase in manufacturing employment, *ceteris paribus*. This estimated result advocated a statement mentioned above, FDI firms create numerous employments in many kinds of industries. Take SamSung one of the biggest FDI firms in Vietnam, for example, they have invested 9.5 billion USD into manufacturing in Vietnam and created jobs for about 110,000 employees. Additionally, the revenue and export value of SamSung in 2021 accounts for 27 per cent of GDP and the manufacturing export value of the whole country. Thanks to those contributions, manufacturing in Vietnam recovered, which leads to the reverse of the deindustrialisation trend.

### **4.3. Specialisation**

Estimated results of different industries on manufacturing employment convey a valuable meaning when interpreting the situation of manufacturing in Vietnam. As can be seen from the result table, most industries have positive effects on manufacturing employment, especially oil production. The food and beverage industry is a labour-intensive industry while oil production is a resource-intensive industry. Both of them contribute a substantial amount to manufacturing employment, but the contribution of oil production is substantially higher. It proved that Vietnam still has advantages in the resource-intensive industry.

Medium and high technology manufacturing also has a positive impact on employment share thanks to the technology inheritance and investment from multinational corporations, especially SamSung. Although the contribution is not as high as the aforementioned industries, it is a positive sign to show that Vietnam may not suffer premature deindustrialisation without having gone through a proper experience of industrialization (Rodrik, 2016). Moreover, the result of the medium and high technology industry is the only one that is statistically significant. This result reflects the role of FDI firms mentioned above.

On the other hand, the textile and clothing industry imposes a reversed impact on employment. This phenomenon is quite doubtful since textile and clothing is a labour-intensive industry. Under the real situation of this industry, the small and medium domestic firms produce a very low-quality products and compete with production in other labour-intensive countries, such as China, Myanmar and Malaysia. Meanwhile, only firms with FDI are able to survive; however, those firms are increasingly applying technology and machine in their chain of production. Due to the nature of this industry, once machines and technology are able to replace employees, the number of employments will be reduced drastically. This is the reason why the coefficient of the textile and clothing variable is large, in comparison with other considered industries. On the contrary, the textile and clothing industry contributes a large per cent to the growth of manufacturing nominal value; however, the lack of statistical significance makes it difficult to interpret the problem precisely.

Although both the textile and clothing and food and beverage industry are labour-intensive manufacturing, there is a difference in each industry's contribution. It stems from the fact that the food and beverage industry depends on the development of agriculture, while the textile and

clothing industry relies on the qualification of the labour force. This situation is applicable in Vietnam as Vietnam has strong and diverse agriculture while the qualification of labour in textile is confirmed to be at a low level.

The estimated results of the nominal value model are statically insignificant. This is the reason why the estimated results' signs are not satisfied with any theory and real situation. This model is proved to be not efficient with the available data.

## 5. CONCLUSION

The results of the estimated model transparently reflect the situation in the Vietnamese manufacturing sector. Vietnam witnessed deindustrialisation from 2000 to 2013. Fortunately, Vietnam is able to recover partly thanks to globalisation, specifically FDI. Globalisation may have an undesirable effect on the manufacturing sector of developing countries because of direct investment in improper industry or primary goods export. However, owing to the sustainable and practical development policy of the government, almost all direct investment in Vietnam is proved to be effective and benefits not only the manufacturing sector but also the whole economy.

On the other hand, some industries in Vietnam still expose drawbacks in competition with industries in other countries. Therefore, detailed investigation and analysis into key industries to promote their development and comparative advantage of them.

The downside of this paper is the shortage of data. The number of observations is small. Additionally, under the epidemic situation, the manufacturing sector would suffer structural change. Therefore, this topic should be revisited in the next 2-3 years to see if there are new turning points. Forecasting can be applied to foresee the trend as Figure 3 showed a possible off turning point when the peace of employment share slows down considerably. It is necessary to redefine future turning points as fixed or changeable turning points to provide appropriate recommendations to businesses and the Government.

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# FINANCIAL CAPACITY FOR SUSTAINABLE GROWTH OF VIETNAMES' SECURITIES COMPANIES

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**Abstract:** *The study aims to analyze the impact of financial capacity on the sustainable growth of Vietnamese securities companies. The research sample is 89 Vietnamese securities companies, corresponding to 649 observations from 2014 to 2021. Using qualitative research (synthesis method; Inductive and interpretive methods) and quantitative research methods (linear regression methods), the author has identified seven financial capacity factors that affect sustainable growth, including (1) Capital Size of a securities company (Size); (2) Debt-to-equity ratio (Lev); (3) Short-term asset investment ratio (Inv); (4) Margin loan balance; (5) Available Capital Ratio (Cap); (6) Return on Assets (ROA); (7) Return on equity (ROE). Based on the research results, the author offers several discussions and assessments on the crucial role of improving corporate financial capacity and recommendations on financial solutions aimed at sustainable growth for Vietnamese securities companies.*

**Keywords:** *Sustainable growth, securities company, Sustainable development*

## 1. INTRODUCTION

In a market economy, most companies set growth goals that maximize profitability, and even many consider growth as a living factor of the business. Because as the company grows, cash flow increases, profits, revenue, capital, and funding increase, and the company's reputation increases rapidly. As securities companies are also essential actors of the stock market, securities companies create mechanisms to raise capital for businesses and the economy through underwriting and securities brokerage activities. The role of forming securities prices through determining and advising the issuer of reasonable issue prices for securities in the issuance. The part of securities swap enforcement helps investors suffer the least amount of damage when making investments. Securities companies provide investment advisory services to provide value to businesses and individuals to invest. Therefore, in addition to the growth of securities companies, it is always necessary to set sustainable goals to reduce risks. Growth has two aspects: when the enterprise controls and ensures the stability of the funding for growth, sustainable growth will bring maximum benefits to the business; on the contrary, the enterprise's uncontrolled growth, imbalance in resources and financial needs, the growth rate of revenue exceeds the growth rate of net cash flows, interest flows, and capital flows will come to depend on external financial resources, the debt burden is not repaid, the risk of economic imbalance, possible risks. At the same time, some

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other businesses that grow slowly will lose development opportunities. So how to grow but must grow sustainably, following the financial capacity of the enterprise, is one of the principles of corporate governance that wants to maximize long-term profitability.

## **2. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES**

### **2.1. Financial capacity and capacity**

The term competence is used quite commonly in many areas, according to the Vietnamese pronoun book authored by Prof. Nguyen Nhu Y (1998) defines “Competence as (i) Sufficient or inherent conditions for doing something; (ii) Ability sufficient to perform a job well” [6, 57]. Agree with this view in the banking and finance economics dictionary of Assoc. Assoc. Prof. Le Van Qi (1996) defines “Capacity Capacity, capacity (i) Is the maximum amount that an enterprise or an industry can have to produce, with the use of full capacity and achieving the highest efficiency available. (ii) In macroeconomics, capacity is a potential possibility in Gross National Product” [5, 45]. Thus, most researchers agree with the view that “capacity is the ability to achieve the highest efficiency”.

The capacity of a subject can be considered in aspects such as competitiveness, management, and executive capacity, personnel capacity, and financial capacity... Thus, financial capacity is one of the criteria for assessing an entity’s capacity. Each subject has its own goals, operating principles, and characteristics, so the financial capacity of the economic actors also has its differences. The notion of the financial capacity of the securities company has not yet received a unified awareness, and there are many different interpretations of this issue. Professor Darrell Duffie (2010) of the Stanford University of America, a leading expert in analyzing the failure of financial institutions, argues that “The financial viability of securities and derivatives traders whose size and complexity depends on business performance, the ability to use the company’s capital” [13, 5]. According to scientists Xiuping Wang and Tuoyu Wang (2017) of Jiangsu University of Science and Technology of China, “The financial capacity of a securities company is the financial capacity of a securities company” [21]. According to Ph.D. Pham Thi Van Anh (2012) said that “The financial capacity of an enterprise is the ability to ensure financial resources for the operation of an enterprise to achieve the objectives set by the enterprise” [1, 17-18]. According to Ph.D. Phan Thi Hang Nga (2013) said, “The financial capacity of an enterprise is the financial ability for enterprises to carry out and develop business activities effectively” [3, 35]. In another point of view, according to Ph.D. La Thi Lam (2016) argues that “Commercial banking financial capacity is the ability to create capital and use capital to meet the maximum needs in the course of commercial banking’s business activities in order to realize the goals set by commercial banks” [2, 28]. According to Ph.D. Nguyen Thi Tuyet (2020), “The financial capacity of an enterprise is the ability to mobilize, allocate and use financial resources to achieve the goals set by the enterprise. The financial capacity of an enterprise is expressed in its ability to raise capital, its ability to manage and use capital, and its ability to ensure financial security in business operations” [4, 29].

From the above different points of view of financial capacity, and at the same time considering from the perspective of the specific business sector of securities companies, according to the author of the article: “The connotation of the financial capacity of a securities company is the financial

ability of the company, that ability brings clear competitive advantages to the enterprise, inputs, and operation processes are capital capacity, payment capacity, operating results to achieve the profitability goals of the enterprise. Financial capacity shows not only the ongoing enterprise's financial capabilities but also the potential financial capabilities and prospects and shows quite clearly the essence of the future.

## **2.2. Financial capacity for sustainable growth of securities companies**

The world has different views on the financial capacity for sustainable growth of securities companies: According to Higgins (1977). The researcher developed the sustainable growth model (SGR) and came up with four financial indicators that affect sustainable growth, including: Dividends, profit margins, asset turnover, and capital structure [15]. According to Asgar et al. (2015). As a result, there is an inverse relationship between the company's growth opportunities and the rate of change in the ratio of retained income, and at the same time, a direct and meaningful relationship between the size of the company and the difference in the percentage of retained profits, i.e., a pros-directed relationship [9]. According to Hafid (2016), the factors that make the company's profitability gradually decrease due to the composition of the cost of goods sold and other costs increasing. The Return on Investment (ROI) reflected in profit margins and Total Asset Return (TATO) that collectively affect a company's Sustainable Growth Rate (SGR) shows a strong correlation between them [14]. According to Mukherjee et al. (2018), there is a significant positive relationship between liquidity, profitability, and leverage with the company's sustainable growth rate [17]. According to Junaidi et al., the negative relationship affects (SGR), including liquidity as the Loan-To-Financing Ratio (LFR), asset quality by being a Non-Performing Loan (NPL), and efficiency under Operating Expenses for Income Operations (BOPO) for SGR [16]. According to Rubunda et al. (2019), the equity financial structure has a positive and significant impact on growth, while the retained profit structure results in a negligible impact [20]. According to Nugroho (2020), return on equity (ROE) is the only factor influencing sustainable growth (SGR) [19]. According to Akhtar et al. (2021). Three measures of financial leverage, i.e., short-term debt (STD), long-term debt (LTD), and total debt (TLEV), were applied to consider their impact on operational efficiency, i.e., sustainable growth (SGR). The result has a significant negative effect on financial leverage on sustainable development. The results show that (STD) is an essential source of debt that contributes to higher refinancing risks for companies and thus negatively affects operational performance [12]. According to Mubeen et al. (2021), businesses with secondary equity issues are more likely to grow sustainably than businesses without secondary equity issues. Company-specific factors important for evaluating the SGR (Sustainable Growth Rate) model include leverage and size, while dividend and profit policies give different results [18].

From different points of view of financial capacity for sustainable growth, while considering the perspective that securities companies are specific intermediary financial institutions, according to the article: Financial capacity for sustainable growth for securities companies consists of two constituent divisions: Endogenous financial capacity and exogenous financial capacity. Endogenous financial capacity for the development of the enterprise is the share of profits left for reinvestment. Exogenous financial capacity is the growth the enterprise utilizes from the outside to meet the capital needs for development.

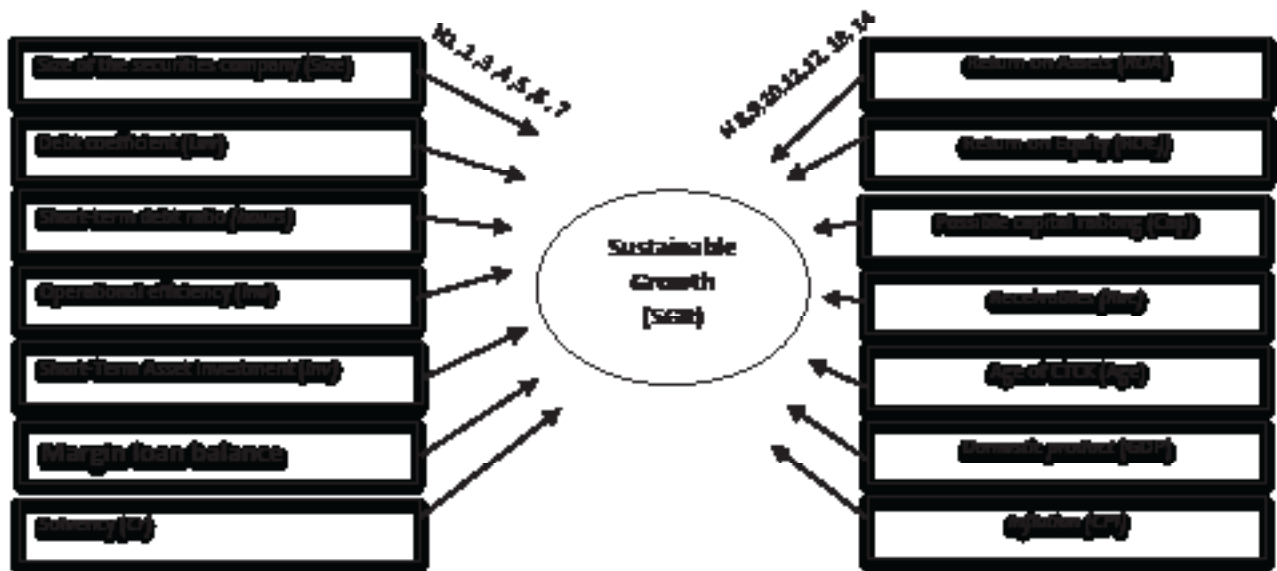
### 3. Methodology and Proposed Model

\* *Quantitative research objectives.* The study uses a linear regression model based on pooled OLS, FEM, and REM panel data to verify the impact of financial capacity on the sustainable growth of Vietnamese securities companies.

\* *Research data.* The study uses STATA 14 software to analyze regression model selection, test and estimate array data regression models. For array data, regression can be carried out according to 3 methods: Pooled Ordinary Least Square – Pooled OLS, Fixed-Effects Model, Covariance model, Within Estimato, Individual Dummy Variable Model, Least Squares Dummy Variable Model- Fem, Radom-Effects Model, Random Intercept, Partial Pooling Model-Re), experimental hausman test, to select the right model out of 3 models. The selected model continues to be tested for defects and remediation is carried out for defects in the model.

\* *Selection of variables in the model.*

The dependent variable is Sustainable Growth ( the SGR variable is measured by the Reinvestment Retained Return/Early Equity ratio), independent variables are the financial capacity of the securities company.



\* *Statistics of variables in the model, name and variable symbol, calculation formula.*

No.	Variable names and symbols	Calculation formula	Expectations
<b>Dependent Variable:</b> Sustainable Growth (SGR)			
Independent variables:			
1	Size of the securities company ( <i>Size</i> )	Ln (Total Assets)	+
2	Debt-to-equity ratio ( <i>Lev</i> )	Total Debt/Equity	-
3	Short-term debt ratio ( <i>Std</i> )	Short-term liabilities/Liabilities	+
4	Short-term asset investment ratio ( <i>Inv</i> )	Short-Term Assets/Total Assets	+
5	Performance Efficiency ( <i>Ine</i> )	Operating expenses/net revenue	-
6	Margin loan balance	Margin Loan Balance/Equity	+



7	Available Capital Ratio ( <i>Cap</i> )	Available Capital/Total Risk Value	+
8	Rate of Receivables ( <i>Rec</i> )	Receivables/Total Assets	+
9	Solvency ( <i>C.R.</i> )	Short-term Assets/Short-Term Liabilities	+
10	Return on Assets ( <i>ROA</i> )	Profit after tax / Average total assets	+
11	Return on equity ( <i>ROE</i> )	Profit After Tax/ Average Equity	+
<b>Control variables and macro variables:</b>			
12	Age of the securities company ( <i>Age</i> )	Ln (Year of metric collection – Year of establishment)	+
13	Gross domestic product (GDP)	Annual growth of real GDP	+
14	Inflation (CPI)	Annual inflation growth rate	-

\* The research model takes the form of:

$$SGR = \beta_0 + \beta_1 * Size_{it1} + \beta_2 * Lev_{it2} + \beta_3 * Std_{it3} + \beta_4 * Inv_{it4} + \beta_5 * Ine_{it5} + \beta_6 * Margin_{it6} + \beta_7 * Cap_{it7} + \beta_8 * Rec_{it8} + \beta_9 * Cr_{it9} + \beta_{10} * ROA_{it10} + \beta_{11} * ROE_{it11} + \beta_{12} * Age_{it12} + \beta_{13} * GDP_{it13} + \beta_{14} * CPI_{it14} + v_i + \epsilon_{it}$$

với  $i = 1, 2, \dots, n$  và  $t = 1, 2, \dots, t$

Inside:

$\beta_0$ : Blocking factor

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8, \beta_9, \beta_{10}, \beta_{11}, \beta_{12}, \beta_{13}, \beta_{14}$ : are the slope coefficients of independent variables

$\mu_{it} = v_i + \epsilon_{it}$ , the model error is separated into two parts:  $v_i$  represents non-observable factors that differ between objects but do not change over time,  $\epsilon_{it}$  represents those non-observable factors that differ between objects and change over time.

#### 4. RESEARCH RESULTS

As Table 1 shows, the standard deviation is used to measure the dispersion of the dataset around the mean, and it is easy to see the STD Deviation/Mean value of most variables with a deal less than 1; the standard deviation is less than average, weak volatility data, observational statistical data of the low spread sample.

**Table 1. Statistical results of variables in the model**

Variable	Obs	Mean	Std. Dev.	Min	Max
SGR	649	-0.001059	.4323421	-7.485.132	297.255
Size	649	1.151.962	.6640879	9.252.387	131.529
Lev	649	.9087	6.082.774	-.0013317	1.337.492
Inv	649	.8869689	.1424891	.2414521	1
Ine	649	.6201652	1.034.681	-3.422.974	1.933.174
Head	649	4.603.366	3.787.344	-76	4.279.153
Rec	649	.0941048	.173451	0	.8716797
CR	649	2.138.842	4.187.726	-7.411.495	106460.6
Margin	649	.3214792	.590975	0	495.754
Roa	649	2.236.123	1.132.057	-8.378.185	5.560.888
Roe	649	3.775.062	1.745.946	-1.578.287	6.216.181

Std	649	.9380899	.1622083	.0117455	1
Age	649	1.237.043	.0581962	1.146.128	1.322.219
GDP	649	5.680.508	1.698.795	2.58	7.08
CPI	649	2.791.248	1.055.754	.63	4.09

(Source: Statistical research on Stata 14 software)

\* *Multicollinearity testing.* The study used the variance inflation factor (VIF) to test multicollinearity. If the VIF coefficient does not exceed 10, then the studied model has a multicollinearity sign.

**Table 2. Multicollinearity test results in the model**

Variable	VIF	1/VIF
Roe	5.17	0.193266
Roa	4.91	0.203547
Age	2.32	0.430176
Size	1.75	0.569847
GDP	1.63	0.613210
Rec	1.58	0.631728
Lev	1.32	0.755592
Head	1.30	0.768675
Margin	1.26	0.792266
Ine	1.16	0.860432
Inv	1.13	0.885832
Std	1.12	0.889297
CPI	1.07	0.933252
CR	1.02	0.976184
<b>Mean VIF</b>	<b>1.91</b>	

(Source: Statistical author on STATA 14 software)

The variables included in the model (\*) related to rotation inherently have interrelated characteristics, so when conducting regression, the author showed a separate regression to avoid multicollinearity. However, to consider the remaining independent variables that are multicollinearity to each other, the author performs a multicollinearity test with independent variables when included simultaneously in the model. Observation of Table 2 shows that the VIF coefficients of the variables in the model are all valued at less than 10. This suggests that the studied regression model does not have a multicollinearity phenomenon; independent variables do not affect the explanatory results of the model.

\* *Selection of estimation models*

To perform table data regression, the most minor squared regression method Pooled Ordinary Least Square (Pool-OLS), Fixed-Effects Model (FEM), and Radom-Effects Model (REM) can be used.

The study used the Hausman test to choose between the regression model (FEM) and (REM) for the tabular data of the study sample.

The Hausman test has the following hypotheses:

$H_0$ : There is no correlation between explanatory variables and random components (i.e. the REM model is suitable)

$H_1$ : There is a correlation between explanatory variables and random components (i.e. the FEM model is appropriate).

Hausman test results (Table 3), the study received a prob result of 0.0000 less than 0.05 (5%). Thus, with a significance level of 5% that has no basis to refute the  $H_0$  hypothesis, the suitable method chosen is fixed influence (FEM). Therefore, the study will use the model (FEM) to regress the impact of financial capacity on the sustainable growth of Vietnamese securities companies in the period of 2014 – 2021:

**Table 3. Hausman Test results for the model**

Variable	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	FEM	REM	Difference	S.E.
Size	-.0502357	-.0726135	.0223778	.0162732
Lev	.0061625	.0014948	.0046677	.0004521
Inv	-.026646	-.1045307	.0778847	.0203718
Ine	.0100077	.0121721	-.0021644	.0011289
Head	.0000885	.0001095	-.0000209	8.57e-06
Rec	-.0964911	-.0718225	-.0246685	.0114026
C.R.	5.07e-07	5.45e-07	-3.78e-08	1.77e-07
Margin	-.041347	-.0539769	-.0539769	.0083935
Roa	-.0204265	-.0296179	.0091914	.0006805
Roe	.0296044	.0381727	-.0085683	.0006106
Std	-.0238828	-.0264053	.0025225	.012905
Age	-.3479509	-.2042867	-.1436643	.0531
GDP	.0040797	.0072646	-.0031849	.0006323
CPI	-.0002287	-.0012665	.0010377	.0006934
b = consistent under Ho and Ha; obtained from xtreg				
B = inconsistent under Ha, efficient under Ho; obtained from xtreg				
Test: Ho: difference in coefficients not systematic				
chi2(12) = (b-B)'[(V_b-V_B)^(-1)](b-B)				
= 220.49				
Prob>chi2 = 0.0000				

(Source: Statistical research on STATA 14 software)

\* Check the suitability of the model.

Variable variance test results from Table 4 of the FEM model (xtttest3 command), the results show that prob=0.0000<0.05 fem model has variable variance phenomenon.

**Table 4. Heteroscedasticity test results in FEM**

Modified Wald test for groupwise heteroskedasticity
in fixed effect regression model
H0: $\sigma(i)^2 = \sigma^2$ for all i
chi2 (91) = 3.7e+35
Prob>chi2 = 0.0000

(Source: Statistical research on STATA 14 software)

Autocorrelation inspection (xtserial command). Table 5 shows that the FEM model has prob=0.0836>0.05, so the FEM model has no correlation.

**Table 5. Autocorrelation test results in FEM**

Wooldridge test for autocorrelation in panel data
H0: no first-order autocorrelation
F( 1, 81) = 3.068
Prob > F = 0.0836

(Source: Statistical research on STATA 14 software)

Next, the study conducts Multicollinearity validation between variables in the model and tests the variable variance (collin command). The results of the Multicollinearity test shown in Table 6 show that the independent variables have a value of VIF<10, demonstrating that there is no multilinear multipoint.

**Table 6. Results of Multicollinearity testing in FEM**

Variable	BRIGHT	SQRT VIF	Tolerance	R-Squared
Size	1.75	1.32	0.5698	0.4302
Lev	1.32	1.15	0.7556	0.2444
Inv	1.13	1.06	0.8858	0.1142
Ine	1.16	1.08	0.8604	0.1396
Head	1.30	1.14	0.7687	0.2313
Rec	1.58	1.26	0.6317	0.3683
CR	1.02	1.01	0.9762	0.0238
Margin	1.26	1.12	0.7923	0.2077
Roa	4.91	2.22	0.2035	0.7965
Roe	5.17	2.27	0.1933	0.8067
Std	1.12	1.06	0.8893	0.1107
Age	2.32	1.52	0.4302	0.5698
GDP	1.63	1.28	0.6132	0.3868
CPI	1.07	1.04	0.9333	0.0667
Mean VIF	1.91			

(Source: Statistical research on STATA 14 software)

As such, the FEM model does not have multicollinearity. To overcome variable variance defects, the study uses the Feasible Generalized Least Squares (FGLS) model to obtain a solid and efficient estimation. The study uses the esttab command to compare models with comparing models with each other (Table 7). Command: esttab OLS FEM REM GLS, r2 star(\*0.1\*\*0.05\*\*\*0.01) brackets no-gap compress

**Table 7. The results of the regression of the financial capacity model impact on the sustainable growth of Vietnamese securities companies**

Variable	OLS	FEM	REM	GLS
<b>Size</b>	-0.0726***	-0.0502***	-0.0726***	0.0232***
	[-4.34]	[-2.65]	[-4.34]	[3.61]
<b>Lev</b>	0.00149	0.00616***	0.00149	-0.00509***
	[1.42]	[6.61]	[1.42]	[-3.08]
<b>Inv</b>	-0.105**	-0.0266	-0.105**	-0.0522***
	[-2.30]	[-0.66]	[-2.30]	[-3.63]
<b>Ine</b>	0.0122**	0.0100**	0.0122**	0.00426
	[2.26]	[2.24]	[2.26]	[1.16]
<b>Head</b>	0.000109***	0.0000885***	0.000109***	0.0000310***
	[5.56]	[5.07]	[5.56]	[3.22]
<b>Rec</b>	-0.0718*	-0.0965***	-0.0718*	-0.0163
	[-1.88]	[-2.97]	[-1.88]	[-1.11]
<b>CR</b>	0.000000545	0.000000507	0.000000545	1.07e-08
	[0.45]	[0.51]	[0.45]	[0.01]
<b>Margin</b>	-0.0540***	-0.0413***	-0.0540***	-0.0170*
	[-3.83]	[-3.10]	[-3.83]	[-1.73]
<b>Roa</b>	-0.0296***	-0.0204***	-0.0296***	-0.00436**
	[-26.02]	[-18.95]	[-26.02]	[-2.50]
<b>Roe</b>	0.0382***	0.0296***	0.0382***	0.0142***
	[47.82]	[36.24]	[47.82]	[9.52]
<b>Std</b>	-0.0264	-0.0239	-0.0264	-0.0131
	[-0.68]	[-0.72]	[-0.68]	[-0.69]
<b>Age</b>	-0.204	-0.348***	-0.204	-0.0651
	[-1.51]	[-2.95]	[-1.51]	[-1.04]
<b>GDP</b>	0.00726**	0.00408	0.00726**	0.000513
	[2.01]	[1.37]	[2.01]	[0.25]
<b>CPI</b>	-0.00127	-0.000229	-0.00127	-0.000373
	[-0.27]	[-0.06]	[-0.27]	[-0.22]
<b>_cons</b>	1.049***	0.936***	1.049***	0.370***
	[4.48]	[4.20]	[4.48]	[3.19]
N	649			
R-sq	0.840			
t statistics in brackets				
* p<0.1, ** p<0.05, *** p<0.01				

(Source: Regression Study on STATA 14 Software)

**5. DISCUSSION AND CONCLUSION**

Model regression results (Table 7):

$$\text{SGR} = 0.370 + 0.0232*\text{Size} - 0.00509*\text{Lev} - 0.0522*\text{Inv} - 0.0170*\text{Margin} + 0.0000310*\text{Cap} - 0.00436*\text{ROA} + 0.0142*\text{ROE} + \mu$$

The determinant coefficient ( $R^2$ ) is the coefficient that assesses the suitability of the regression model. The value of the coefficient ( $R^2$ ) indicates what percentage of variation in the dependent variable can be explained by the regression model. Based on the results attributed to the results, seven independent variables explain 84.0% of the variation of the SGR variable, including The capital size of the securities company (*Size*); Debt-to-equity ratio (*Lev*); Short-term asset investment ratio (*Inv*); Margin loan balance; Available Capital Ratio (*Cap*);; Return On Assets (ROA); Return on equity (*ROE*). Specifically, the impact results are as follows:

- *Capital size of the securities company (Size)*: Has a similar impact on the sustainable growth of the securities company, with a high significance of 1%. If the size of the equity of the securities company is larger, the financial capacity of the securities company will be strong with impact when the size of the equity of the securities company increases by 1 unit, the sustainable growth of the securities company increases by 0.0232 units. This is in line with the practice in Vietnam when a securities company with a large equity scale will help them have good financial autonomy while having many opportunities to carry out business activities and easily fend off when risks occur.

- *Debt-to-equity ratio (Lev)*: Has a counter-impact on the sustainable growth of the securities company, with a high significance of 1%. The greater the use of financial leverage of any securities company, the financial capacity of that securities company will decrease with the impact that when the power increases by 1 unit, the sustainable growth of the securities company decreases by 0.00509 units.

- *Short-term asset investment ratio (Inv)*: Has a counter-impact on the sustainable growth of the securities company, with a high significance of 1%. The short-term investment decisions of securities companies have not been effective, carry many risks, and have not contributed significantly to the company's profit before interest and taxes. When the company increases the short-term investment rate, the financial capacity of that securities company will decrease with the impact. When the investment rate increases by 1 unit, the sustainable growth of the securities company decrease by 0.0522 units.

- *Available Capital Ratio (Cap)*: Has a co-directional impact on the securities company's sustainable growth (SGR), a high significance of 1%. Vietnamese securities companies have balanced their profitability and financial safety, ensuring that the available capital adequacy ratio means that the quality of assets is improved, the level of risk is low, and the efficiency of capital use increases, thereby positively impacting the sustainable growth of securities companies.

- *Margin loan balance*: The opposite impact on the sustainable growth of the securities company; the significance level is high at 10%. Margin lending is an activity of using the capital of a securities company, and margin transactions allow securities companies to increase profits, improve revenues from transaction fees, raise many investors, promote listed companies, and improved liquidity. However, in the past period, this activity has not brought significant income to the securities company and has had the opposite impact on the sustainable growth of the securities company. When the outstanding company provides a margin loan, the financial capacity of that securities company will decrease with a reduced impact of 0.0170 units.

- *Return on equity (ROE)*: Has a similar impact on the sustainable growth of the securities company, a very high significance level of 1%. If the more significant the profitability on the equity of the securities company, the stronger the financial capacity of the securities company. This is also in line with the practice in Vietnam; when a securities company has an increased return on equity, which means that the securities company does business effectively and thus contributes to increasing equity through the profit left behind, hence the financial strength will be further enhanced.

- *Return on Assets (ROA)*: Has a counter-impact on the sustainable growth of the securities company, with a high significance of 1%. During the research period, securities companies have not made good use of the assets of securities companies, which has not contributed to increasing the financial capacity of securities companies.

In addition, the model (\*) shows little meaningful relationship between variables: solvency (CR); The ratio of receivables (Rec); Operational efficiency (Ine); and control and macro variables (GDP, CPI, Age) with sustainable growth. The implication of management activities such as improving solvency, maintaining low receivables, and improving operational efficiency has not significantly contributed to increasing financial capacity and sustainable growth of the Securities Company. Especially in the research period, no significant relationship was found between the age variable of securities companies and sustainable development, which means that securities companies have more operating time. For a long time, theoretically has a lot of experience in management and administration, has the advantage of market share, and profits to help securities companies grow sustainably, but the results of the regression model (\*) show the same opposite effect.

Conclusion: Based on the results of the model regression test, the author makes some recommendations on financial solutions aimed at sustainable growth for Vietnamese securities companies as follows:

Firstly, Vietnamese securities companies need to actively increase the size of equity such as: increasing the profit retained for reinvestment (during this period, the policy of dividend surplus can be applied), increasing the capital contribution of the owner, issuing shares (such as preferred shares to increase the efficiency of the stock issuance channel ), merging or consolidating with securities companies with the same financial capacity and business characteristics, or merging or consolidating with domestic and foreign financial institutions with strong financial capability.

Secondly, Debtcapital or debt restructuring in the direction of increasing the long-term debt ratio (debt capital can be raised through the issuance of convertible bonds with a reasonable period of 2-3 years, with this form in the immediate future meeting the demand for capital, and the debt will be converted into equity after the maturity of the bond).

Thirdly, Improve the efficiency of margin lending operations and, at the same time, maintain highly available capital. In addition, the long-standing securities company recommends restructuring the apparatus to improve ROE, and from there, the company will achieve sustainable growth goals.

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### ANNEX: LIST OF VIETNAM SECURITIES COMPANIES

BTI	Initials	Company Name	Website
1	AAS	SmartInvest Securities JSC	<a href="https://www.sisi.com.vn">https://www.sisi.com.vn</a>
2	AAUS	Eurasian Securities JSC	<a href="http://www.aas.com.vn">http://www.aas.com.vn</a>
3	ABBS	An Binh Securities JSC	<a href="https://www.abs.vn">https://www.abs.vn</a>
4	ACBS	ACB Securities Company Limited	<a href="https://acbs.com.vn">https://acbs.com.vn</a>
5	AGR	Agribank Securities JSC	<a href="https://agriseco.com.vn">https://agriseco.com.vn</a>
6	APG	APG Securities JSC	<a href="https://apsi.vn">https://apsi.vn</a>
7	APS	Asia Pacific Securities JSC	<a href="https://apec.com.vn">https://apec.com.vn</a>
8	APSC	Alpha Securities JSC	<a href="https://apsc.vn">https://apsc.vn</a>
9	ART	BOS Securities JSC	<a href="https://bos.vn">https://bos.vn</a>
10	ASCS	ASC Securities JSC	<a href="http://www.ascs.com.vn">http://www.ascs.com.vn</a>
11	ATSC	An Thanh Securities JSC	<a href="http://www.atsc.com.vn">http://www.atsc.com.vn</a>
12	Beta	Beta Securities JSC	<a href="https://www.bsi.com.vn">https://www.bsi.com.vn</a>
13	BMS	Bao Minh Securities JSC	<a href="https://www.bmsc.com.vn">https://www.bmsc.com.vn</a>
14	BSI	Securities Joint Stock Company of The Bank for Investment and Development of Vietnam	<a href="https://www.bsc.com.vn">https://www.bsc.com.vn</a>
15	BVS	BaoViet Securities JSC	<a href="https://bvsc.com.vn">https://bvsc.com.vn</a>
16	CSCJ	Capital Securities JSC	<a href="https://www.casc.vn">https://www.casc.vn</a>
17	CSI	Vietnam Architectural Securities JSC	<a href="https://vncsi.com.vn">https://vncsi.com.vn</a>
18	CTS	Securities Joint Stock Company of Vietnam Bank for Industry and Trade	<a href="https://www.cts.vn/">https://www.cts.vn/</a>
19	CVS	CV Securities JSC	<a href="http://cvs.vn">http://cvs.vn</a>
20	DNSE	DNSE Securities JSC	<a href="https://www.dnse.com.vn">https://www.dnse.com.vn</a>
21	DongAS	Dong A Bank Securities Company Limited	<a href="https://www.dag.vn">https://www.dag.vn</a>
22	DSC	DSC Securities JSC	<a href="https://dsc.com.vn">https://dsc.com.vn</a>
23	DVSC	Dai Viet Securities JSC	<a href="https://www.dvsc.com.vn">https://www.dvsc.com.vn</a>
24	ETC	Euro Capital Securities JSC	<a href="https://www.ecsc.vn">https://www.ecsc.vn</a>
25	EVS	Everest Securities JSC	<a href="https://www.eves.com.vn">https://www.eves.com.vn</a>
26	FTS	FPT Securities JSC	<a href="http://www.fpts.com.vn">http://www.fpts.com.vn</a>
27	GLS	Golden Lotus Securities JSC	<a href="http://www.gls.vn">www.gls.vn</a>
28	HAC	Hai Phong Securities JSC	<a href="https://haseco.vn">https://haseco.vn</a>
29	HBS	Hoa Binh Securities JSC	<a href="http://www.hbse.com.vn">http://www.hbse.com.vn</a>
30	HCM	Ho Chi Minh City Securities JSC	<a href="https://www.hsc.com.vn">https://www.hsc.com.vn</a>

31	HDBS	HD Securities JSC	<a href="https://www.hdbs.vn">https://www.hdbs.vn</a>
32	HFT	Pinetree Securities JSC	<a href="https://pinetree.vn">https://pinetree.vn</a>
33	HRS	KS Securities JSC	<a href="https://kss.com.vn">https://kss.com.vn</a>
34	HVS	HVS Vietnam Securities JSC	<a href="https://hvsvn.com">https://hvsvn.com</a>
35	IRS	Royal International Securities JSC	<a href="https://www.irs.com.vn">https://www.irs.com.vn</a>
36	ISC	Vietnam Industrial Securities JSC	<a href="http://www.vics.vn">http://www.vics.vn</a>
37	IVS	Guotai Junan Securities JSC (Vietnam)	<a href="https://gtjai.com.vn">https://gtjai.com.vn</a>
38	ARE	Japan Securities JSC	<a href="https://www.japan-sec.vn">https://www.japan-sec.vn</a>
39	LITTLE	KIS Securities Vietnam JSC	<a href="https://kisvn.vn">https://kisvn.vn</a>
40	KLS	Kim Long Securities JSC	<a href="http://www.kls.vn">www.kls.vn</a>
41	KVS	Kenanga Securities Vietnam JSC	<a href="http://www.vinagolden.com">www.vinagolden.com</a>
42	LVS	Lien Viet Securities JSC	<a href="http://www.lvs.com.vn">http://www.lvs.com.vn</a>
43	MBKE	Maybank Kim Eng Securities Company	<a href="https://www.maybank-kimeng.com.vn">https://www.maybank-kimeng.com.vn</a>
44	MBS	MB Securities JSC	<a href="https://mbs.com.vn">https://mbs.com.vn</a>
45	MHBS	MHB Securities JSC	<a href="https://mhbs.vn">https://mhbs.vn</a>
46	BUT	Mirae Asset Securities JSC (Vietnam)	<a href="https://www.masvn.com">https://www.masvn.com</a>
47	MSGS	JB Vietnam Securities JSC	<a href="https://jbsv.com.vn">https://jbsv.com.vn</a>
48	MSI	KB Vietnam Securities JSC	<a href="https://www.kbsec.com.vn">https://www.kbsec.com.vn</a>
49	NSI	National Securities JSC	<a href="https://www.nsi.com.vn">https://www.nsi.com.vn</a>
50	NVS	Navibank Securities JSC	<a href="http://www.nvs.vn">http://www.nvs.vn</a>
51	ORS	Tien Phong Securities JSC	<a href="https://tpbs.com.vn/">https://tpbs.com.vn/</a>
52	PHS	Phu Hung Securities JSC	<a href="https://www.phs.vn/">https://www.phs.vn/</a>
53	PNS	Funan Securities JSC	<a href="https://www.funan.com.vn">https://www.funan.com.vn</a>
54	PSI	Petroleum Securities JSC	<a href="https://www.psi.vn">https://www.psi.vn</a>
55	ROSE	Globalmind Capital Securities JSC	<a href="https://www.globalmind.com.vn">https://www.globalmind.com.vn</a>
56	SBBS	Saigonbank Berjaya Securities JSC	<a href="https://sbbs.com.vn">https://sbbs.com.vn</a>
57	SBS	Saigon Thuong Tin Bank Securities Jsc.	<a href="http://www.sbbs.com.vn">http://www.sbbs.com.vn</a>
58	SBSI	Stanley Brothers Securities JSC	<a href="https://sbsi.vn">https://sbsi.vn</a>
59	SeAS	Asean Securities JSC	<a href="https://www.aseansc.com.vn">https://www.aseansc.com.vn</a>
60	SHBS	SHB Securities JSC	<a href="https://www.shbs.com.vn">https://www.shbs.com.vn</a>
61	SHS	Saigon - Hanoi Securities JSC	<a href="https://www.shs.com.vn">https://www.shs.com.vn</a>
62	SJCS	SJC Securities JSC	<a href="http://www.sjcs.com.vn">www.sjcs.com.vn</a>
63	SSI	SSI Securities JSC	<a href="https://www.ssi.com.vn">https://www.ssi.com.vn</a>
64	SSV	Shinhan Securities Vietnam	<a href="https://shinhansec.com.vn">https://shinhansec.com.vn</a>
65	STSC	STSC Securities JSC	<a href="http://www.stsc.vn">www.stsc.vn</a>
66	TCBS	Technical Securities JSC	<a href="https://www.tcbs.com.vn">https://www.tcbs.com.vn</a>
67	TCI	Thanh Cong Securities JSC	<a href="https://tcsc.vn">https://tcsc.vn</a>
68	TVB	Tri Viet Securities JSC	<a href="http://www.tvsc.vn">http://www.tvsc.vn</a>
69	TVS	Thien Viet Securities JSC	<a href="https://www.tvs.vn">https://www.tvs.vn</a>
70	TVSI	Tan Viet Securities JSC	<a href="https://www.tvsi.com.vn">https://www.tvsi.com.vn</a>
71	VCBS	Securities Joint Stock Bank for Foreign Trade of Vietnam	<a href="https://vcbs.com.vn">https://vcbs.com.vn</a>

72	VCI	Viet Capital Securities JSC	<a href="https://www.vcsc.com.vn">https://www.vcsc.com.vn</a>
73	VDS	Dragon Viet Securities JSC	<a href="https://www.vdsc.com.vn">https://www.vdsc.com.vn</a>
74	VDSE	Far East Securities JSC	
75	VFS	Nhat Viet Securities JSC	<a href="https://www.vfs.com.vn">https://www.vfs.com.vn</a>
76	VIG	Vietnam Commercial and Industrial Securities JSC	<a href="http://www.vics.vn">http://www.vics.vn</a>
77	AIMS	Vietnam International Securities JSC	<a href="https://www.vise.com.vn">https://www.vise.com.vn</a>
78	WISECO	Viet Securities JSC	<a href="https://vietsc.vn">https://vietsc.vn</a>
79	VIX	VIX Securities JSC	<a href="https://www.vixs.vn">https://www.vixs.vn</a>
80	VND	VNDirect Securities JSC	<a href="https://www.vndirect.com.vn">https://www.vndirect.com.vn</a>
81	VNSC	Vina Securities JSC	<a href="https://vinasecurities.com">https://vinasecurities.com</a>
82	VPBS	VPS Securities JSC	<a href="https://www.vps.com.vn">https://www.vps.com.vn</a>
83	VSEC	RHB Securities Vietnam	<a href="https://rhbsecurities.vn">https://rhbsecurities.vn</a>
84	VSMS	VSM Securities JSC	<a href="https://vsm.vn">https://vsm.vn</a>
85	VTSC	Viet Thanh Securities JSC	<a href="http://vts.com.vn">http://vts.com.vn</a>
86	VTSS	Viet Tin Securities JSC	<a href="http://www.viet-tin.com">http://www.viet-tin.com</a>
87	Woori	NH Vietnam Securities Company	<a href="https://nhsv.vn">https://nhsv.vn</a>
88	WSS	Wall Street Securities JSC	<a href="http://www.wss.com.vn">http://www.wss.com.vn</a>
89	YSVN	Yuanta Securities Vietnam Company	<a href="https://yuanta.com.vn">https://yuanta.com.vn</a>

*(Source: Author summary from financial statements of securities companies)*

# COMPLETE ACCOUNTING OF EMPLOYEE BENEFITS IN VIETNAM ACCORDING TO INTERNATIONAL PRACTICES

Dr. Do Minh Thoa<sup>1</sup>

**Abstract:** *When employing employees in the enterprise, wages, bonuses and benefits in the form of short-term wages, bonuses and benefits will arise; employer contributions relating to employee benefits after retirement, severance pay and stock-based payments; it is one of the important economic transactions that arise regularly and have a significant influence on the financial statements. However, this issue currently does not have regulations as a legal basis for the preparation and presentation of financial statements of Vietnamese enterprises. The article will give solutions to improve the accounting of benefits and benefits for employees in Vietnam according to international practices.*

**Keywords:** *accounting, employee benefits, IAS 19, international practice*

## 1. INTRODUCTION

For organizations, businesses and employers, having benefits policies will bring many benefits to the development of the business. Benefits policies are a tool to help employers attract as well as retain talented and highly qualified employees to contribute to the development of the business. Benefits policies also help businesses manage high risks at relatively low costs, and at the same time reduce financial burdens. The conditions that the benefits policy offers to help employees' work productivity will be improved when they are sure to ensure the benefits of themselves and their families through the agreements in the contract labor.

The cost of employee benefits needs to be paid in different ways. This means that costs and liabilities for employee benefits are recognized in the same period when employees are employed by the enterprise. For salary, bonus and leave, recognition is very easy. But how will future employee benefits be recorded? Retirement benefits are paid when the employee retires, but how is the allowance for the time the employee actually worked is recorded?

International Accounting Standard IAS 19 - Employee benefits provide accounting regulations and disclose information to employers about employee benefits. IAS 19 - Employee benefits requires an entity to recognize:

- (a) Liabilities when employees have worked for the unit to receive future benefits; and
- (b) The cost when the unit consumes the economic benefits arising from the employee working for the unit to enjoy the benefits.

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Academy of Finance

IAS 19 divides benefits into the following categories: short-term benefits, benefits after the employment term expires, long-term benefits and benefits after the termination of the employment contract. In there:

+ Short-term benefits for employees: These are payments that are paid within 12 months after the reporting date and are recognized as an expense in the period when the employee provides the service. For example: salary, leave, profit sharing and bonuses.

+ Benefits after the end of working term: The benefit is paid after the employee's working term expires, for example, retirement benefits, pension schemes, medical care ... Understanding the difference between the two types of benefits and categorizing them clearly is essential because the accounting method for each type of fund is very different.

+ Defined Contribution Fund: Employers are obligated to contribute to this fund and this fund is for employees. Employees are entitled to benefits based on the value of assets in this fund. If the assets of the fund are insufficient, the employer is not obligated to pay the difference. Therefore, it can be seen that the subjects at risk here are employees. Accounting for employers only records expenses and contribution obligations during the employee's working time.

+ Defined Benefits Fund: Basically, for a defined benefit fund, the employer is obligated to provide a certain amount of the benefit. Employers are not required to pay for several separate funds to pay employee benefits. However, many employers use this method. If there are not enough assets in the fund, the employer needs to pay the difference and the worker must be entitled to his or her benefits. So here the subject at risk will be the employer. As a result, accounting for defined benefit funds is one of the most difficult and complex issues in International Financial Reporting Standards. IAS 19 requires applying, then discounting, using a variety of premium and other fee calculation assumptions.

+ Other long-term benefits: The other type of long-term benefit is all the remaining benefits except short-term benefits, benefits after the employment term expires and benefits after the termination of the employment contract. For example, long-term leave, bonuses or deferred earnings are classified under this group of benefits. Some other long-term benefits are calculated and recorded in the same way as a defined benefit plan, but there are some simplifications that are not like all of the rules that apply here.

+ Benefits after termination of labor contract: Is the benefit an employee enjoys after the termination of an employment contract, usually before the retirement age. Termination benefits are recognized as an expense and liability and must be discounted from time to time (when the amount is paid more than 12 months after the reporting date).

Presenting information about employees' benefits on financial statements in an accurate, true, transparent manner is always required and imperative.

Towards perfecting Vietnam's legal and accounting system in the direction of harmonizing with international accounting, in this article, the author clarifies from the study of International Accounting Standard IAS 19 on principles of presenting employee welfare information in financial statements, in order to provide orientation for the application of welfare accounting for employees in accordance with international practices.

## 2. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES

In January 1983, the International Accounting Standards Committee (IASC) issued IAS 19 - Accounting for Employer Retirement Benefits. IAS 19 was further revised in 1993 and renamed IAS 19 - Retirement Benefit Expenses

February 1998, IAS 19 - Employee benefits superseded IAS 19 - Expenses for retirement benefits

In April 2011, the International Accounting Standards Board (IASB) adopted IAS 19 - Employee Benefits

In December 2004, the International Accounting Standards Board revised the accounting for benefit plans with multiple employers participating in group plans.

In June 2011, the International Accounting Standards Board revised IAS 19; includes removing the option to allow an entity to defer the recognition of changes in net benefit liabilities and modifying some disclosure requirements for defined benefit and multi-user funds labor.

Other IFRSs resulted in some minor modifications to IAS 19, including the Welfare Fund with Defined Benefits: Employee Contribution (IAS 19 Amendment) (Issued November 2013).

The current IAS 19 was issued in 2011, replacing the old IAS 19 issued since 1998, and applies to Financial Statements with fiscal years beginning January 1, 2013.

Researches abroad have provided guidelines and in-depth research on the concepts, terms and contents of International Financial Reporting Standards IAS 19 - Welfare for employees. IAS 19 - Employee Benefits provides accounting for employee benefits including: short-term benefits, post-employment benefits, other long-term benefits and severance benefits. The entity will have to record expenses related to the provision of benefits to employees during the period instead of when paying. In addition, IAS 19 also guides the recognition of value for each type of benefit for employees. However, the instructions and illustrative situations are mainly to clarify the concepts, terms and contents from a theoretical perspective at the units in general, but there are no specific instructions on the application of these principles. concepts, terms and content of standards in each specific type of entity such as non-monetary enterprises, banks and financial companies....và especially, there has been no research on the application of International Accounting Standard IAS 19 - Employee benefits in specific economic, financial and accounting conditions in Vietnam in the current period, no research has been officially translated into Vietnamese and is guaranteed to be pure Vietnamese, making it easy for researchers, learners and accountants to understand, learn and practice.

Employee benefits accounting in Vietnam in recent years has attracted the attention of researchers, however, the number of publications is limited and only focuses on certain aspects of accounting employee benefits. Some of the main contents of the studies on Employee Benefits and Accounting Employee benefits in Vietnam include: *Accounting principles for welfare payments with the study of Pham Nguyen Thien Di* (2018) (<https://bigfamily.vn/>). *What is welfare? Roles for workers and businesses with Hong Nguyen's research* (2020) (<https://timviec365.vn/>). *Welfare for employees in enterprises in Vietnam: Situation and solutions with research by Nguyen Duc Kha*

(2021) (<https://tapchicongsan.org.vn/>). *Types of social welfare for workers, officials and employees in Vietnam with the research of Bui Sy Loi* (2019) (<http://hdl.vn/>). *Accounting for payables to employees at administrative and non-business units* with the study of Mai Thi Ha – Mai Thi Nga (2019) (<http://tapchitaichinh.vn/>).

### **3. METHODOLOGY AND PROPOSED MODEL**

Research Methods: From the collected material, the author conducts qualitative research, through such methods: analyzing and synthesizing theory, experts, analyzing and summarizing experience, studying history ... On dialectical materialistic perspective: use translation to speculate the corollary, use comparisons to make intermediate judgments, thereby using induction to make conclusions, summarize to propose recommendations and solutions.

#### Secondary data collection

Summary reports of the Ministry of Finance, the Ministry of Labor - Invalids and Social Affairs, books and magazines such as: Financial and Accounting Research Journal, Accounting Journal, Accounting - Auditing Journal, scientific research journal of auditing, domestic and foreign studies related to the topic. Websites such as the website of the Ministry of Finance ([www.mof.gov.vn](http://www.mof.gov.vn)), the International Accounting Standards Drafting Committee ([www.iasplus.com](http://www.iasplus.com)) and some other websites.... Legal documents related to accounting and welfare for employees such as Enterprise Law, Accounting Law, International Accounting Standards, Vietnam Auditing Standards, Decrees, Decisions, Circulars... of the Government and agencies relevant function.

### **4. RESEARCH RESULTS**

#### **4.1. Current Vietnamese accounting system on employee benefits**

##### **4.1.1. Accounting principles Employee benefits in Vietnam today**

###### ***(a) Principles of accounting for employer contributions related to employee benefits after retirement***

In Vietnam, employer contributions related to post-retirement benefits mainly include contributions to the social insurance fund, statutory health insurance fund, in rare cases other additional contributions as agreed between the employer and the employee.

According to Vietnamese Accounting Standards and Accounting System (VAS), contributions to the statutory social insurance and health insurance funds are recognized in production and business expenses when the obligation to contribute arises. VAS does not have specific regulations for other post-retirement benefits contributions made by self-employed enterprises or retirement benefits that enterprises commit to provide to employees after contract termination labor. These benefits are not common in Vietnam but are quite popular around the world.

According to IFRS International Financial Reporting Standards, post-retirement benefit plans are divided into 2 categories:

+ The first is a benefit program with defined employer contribution obligations (employees do not commit to a specific level of benefits that employees will receive after retirement).

Contributions to the social insurance fund, the statutory health insurance fund fall into this category. The application of IFRS does not make a difference in the financial statements of the business for this type of benefit plan.

+ The second is a welfare program with benefits for employees after retirement committed by the employer. When applying IFRS to this type, the recognition of obligations of the employer and related expenses for each period is made according to a financial model using probability theory, statistical results. suitable for discounted cash flow. Businesses often have to use experts to implement such financial modeling. Since VAS does not have regulations for this type of business, when applying IFRS, enterprises with employee welfare programs of this type need to evaluate how the accounting policies applied by enterprises are compared with those of the VAS with IFRS requirements and whether or not professionals are required to implement the above financial model.

### ***(b) Accounting principles for severance pay***

Severance allowance is a compulsory benefit that an employer must pay to an employee as prescribed in article 46 of the Labor Code.

VAS mentioned the provision of severance allowance but did not specify the value of the employer's debt obligations and related expenses. This leads to inconsistent interpretation and application in practice in the preparation of the financial statements.

According to IFRS, the severance allowance as provided for in article 46 of the Labor Code is considered a statutory termination benefit which the employer is obligated to pay. The amount of the enterprise's debt obligations and related costs for each period is determined according to a financial model using probability theory, statistics, combined with discounted cash flows similar to that for a welfare program. benefits with benefits for employees after retirement as committed by the employer as mentioned above.

### ***(c) Accounting principles for stock-based payments***

Currently, there are a number of joint stock companies in Vietnam that have stock-based employee welfare programs to encourage employees towards enhancing shareholder value. These programs can take many forms and varied regimes, but what they have in common is that payments to employees (salaries, bonuses or benefits) are in the company's own shares, financial instruments, and financial instruments. related income or the amount associated with the share price.

VAS currently does not have specific regulations for these transactions. As a result, in practice, the financial statements of businesses with these programs often do not fully reflect the economic effects of the transaction, for example, the hidden costs of the business from issuing shares to employees. at a price lower than the market price is usually not recognized in the financial statements because enterprises usually account for bonus shares issued to employees at nominal price, and only recognized at the time of issuance.

When applying IFRS, enterprises must record into production and business expenses the value of work performed by employees in the period allowing them to receive related benefits (shares). For a transaction where the enterprise pays actual employees in shares (or other equity instrument), the enterprise recognizes a corresponding increase in equity. For transactions



actually paid by the enterprise in cash (based on stock prices), the enterprise recognizes a corresponding liability.

Normally, the value of work performed by employees should be recognized at the fair value of the stock (or other equity instrument) or the fair value of the liability as a result of payment in cash. money rather than at the nominal price of shares issued to employees. This will lead to businesses recognizing larger expenses when applying IFRS and reducing reported profits.

Determining fair value can be a complex and resource-intensive undertaking unless the stock (or other financial instrument) is listed on an active market so that quoted prices can be used. no adjustment needed.

In addition, the allocation of transaction value to expense for each accounting period may also involve accounting estimates that are subject to uncertainty.

#### **4.1.2. Accounting for employee benefits according to Vietnam's current accounting system**

##### **a) Method of accounting for salaries, bonuses of salary nature, social insurance and other payables and payables to employees according to the current accounting regime**

Circular No. 200/2014/TT-BTC dated December 22, 2014 of the Ministry of Finance guiding the corporate accounting regime, stipulates that accounting accounts reflect social insurance, health insurance, unemployment insurance and unemployment insurance premiums as follows:

According to Article 53, Account 334 - Payables to employees is used to record payables and payment status of payables to employees of the enterprise in terms of salary, wages, bonuses, social insurance. unions and other payables belonging to the employee's income.

Structure and contents of account 334 – Payables to employees

Debit - Dr:

- Wages, salaries, bonuses of a salary nature, social insurance and other payments already paid, paid or advanced to employees;
- Deductions from employees' salaries and wages.

Credit - Cr: Wages, salaries, bonuses of a salary nature, social insurance and other payables and payables to employees;

Credit balance: Wages, salaries, bonuses of a salary nature and other amounts still payable to employees.

Account 334 may have a Debit balance. The debit balance of Account 334 is very unique - if any, it reflects the amount paid that is larger than the amount payable for salaries, wages, bonuses and other payments to employees.

Account 334 must be recorded in detail under 2 contents: Salary payment and other payments.

*Account 334 - Payables to employees, have 2 tier 2 accounts:*

- *Account 3341 - Must pay worker's salary:* Reflect the payables and the payment of payables to the employees of the enterprise in terms of wages, bonuses of a salary nature, social insurance and other payables belonging to the workers' incomes tablets.

- *Account 3348 - Must pay other workers*: Reflects payables and payment of payables to employees other than employees of the enterprise in terms of wages, bonuses (if any) of a wage nature and other amounts of revenue worker's input.

### **Accounting methods for some major economic transactions**

(a) Calculating salary and allowances according to regulations to be paid to employees, recording:

Dr. Acc 241 - Construction in progress

Dr. Acc 622, 623, 627, 641, 642

Cr. Acc 334 - Payable to employees (3341, 3348).

(b) Bonuses paid to employees:

- When determining the amount of bonus paid to employees from the bonus fund, record:

Dr. Acc 353 - Bonus and benefits (3531)

Cr. Acc 334 - Payable to employees (3341).

- When disbursing the bonus payment fund, write:

Dr. Acc 334 - Payable to employees (3341)

Cr. Acc 111, 112,...

(c) Calculating social insurance premiums (sickness, maternity, accident, ...) payable to employees, record:

Dr. Acc 338 - Payable, other filed (3383)

Cr. Acc 334 - Payable to employees (3341).

(d) Calculate the actual leave salary payable to the employee, record:

Dr. Acc 623, 627, 641, 642

Dr. Acc 335 - Expenses to be paid (with advance deduction of leave salary)

Cr. Acc 334 - Payable to employees (3341).

(d) Items to be withheld from salary and income of employees and other employees of the enterprise such as unpaid advances, health insurance, social insurance, unemployment insurance, compensation for missing assets according to the handling decision.... record:

Dr. Acc 334 - Payable to employees (3341, 3348)

Cr. Acc 141 - Advance

Cr. Acc 338 - Payable, other filed

Cr. Acc 138 - Other receivables.

(e) Calculating the personal income tax of employees and other employees of the enterprise payable to the State, recording:

Dr. Acc 334 - Payable to employees (3341, 3348)

Cr. Acc 333 - Taxes and other payables to the State (3335).

(g) When advancing or actually paying salaries and wages to employees and other employees of the enterprise, record:

Dr. Acc 334 - Payable to employees (3341, 3348)

Cr. Acc 111, 112,...

(h) Payment of payables to employees and other employees of the enterprise, recording:

Dr. Acc 334 - Payable to employees (3341, 3348)

Cr. Acc 111, 112,...

(i) In case of paying salaries or bonuses to employees and other employees of the enterprise with products or goods, the accountant shall record sales revenue excluding VAT, the following accounts shall be recorded:

Dr. Acc 334 - Payable to employees (3341, 3348)

Cr. Acc 511 - Revenue from sales of goods and provision of services

Cr. Acc 3331 - VAT payable (33311).

(k) Identify and pay other payables to employees and employees of the business such as meal allowance, house rent, phone bill, tuition fee, membership card...:

- When determining the amount to be paid to employees and employees of the enterprise, record:

Dr. Acc 622, 623, 627, 641, 642

Cr. Acc 334 - Payable to employees (3341, 3348).

- When paying employees and employees of the enterprise, record:

Dr. Acc 334 - Payable to employees (3341, 3348)

Cr. Acc 111, 112,...

**b) Accounting for social insurance, health insurance, unemployment insurance, unemployment insurance according to the current accounting system of Vietnam**

***The system of current legal documents on compulsory welfare of employees in enterprises in Vietnam***

In Vietnam, according to the Law on Social Insurance 2014, there are the following types of compulsory insurance in enterprises:

- Social insurance: this type of insurance includes maternity, sickness, death and retirement funds..

- Occupational accident and disease insurance: the insured is paid in the event of an accident or illness related to his or her job.

- Health insurance: paid in case of illness or disease,...

- Unemployment insurance: compensate a part of income when employees lose their jobs on the basis of the paid Unemployment Insurance Fund.

*Subjects participating in compulsory insurance*

According to Article 2, Law on Social Insurance 2014 and Articles 4.13,17.21 of Decision 595/QĐ-BHXH, subjects participating in compulsory insurance include:

- Vietnamese employees: have signed a Labor Contract from full 1 month or more.

- Foreign workers: foreign citizens working in Vietnam, possessing a practice certificate, a work permit or a practice permit issued by a Vietnamese competent authority. Another condition is to sign a labor contract of 3 months or more.

- Employers: the company has Vietnamese employees who sign a full-time 1 month labor contract or has a foreign worker who has signed a labor contract for 3 months or more and has the necessary papers: work permit, license or certificate of practice.

*Insurance payment method*

For the compulsory insurance payment method, there are also specific regulations for participants to understand and pay on time.

Employee: monthly payment. For employees who go to work abroad and have signed a Labor Contract, they must pay every 3, 6 or 12 months. Or, according to Article 85 of the Law on Social Insurance 2014, employees who go to work abroad can also pay 1 time according to the time limit specified in the contract.

Employer: paid monthly. Or according to Article 86 of the Law on Social Insurance 2014, the employer can pay monthly, every 3 or 6 months when paying employees by contract or by product. This applies to companies operating in a number of fields such as agriculture - forestry - fishery - salt production.

**Accounting method for social insurance, health insurance, personal care insurance, unemployment insurance according to the current accounting system of Vietnam**

Circular No. 200/2014/TT-BTC dated December 22, 2014 of the Ministry of Finance guiding the corporate accounting regime with provisions on Account 338 – Payables and other payables (Article 57 - Circular No. 200/ 2014/TT-BTC) to reflect:

- Amount of deduction and payment of social insurance, health insurance, unemployment insurance and union dues;

- Deductions from the employee's wages as ordered by the court;

- Other payables and payables, such as payments to buy voluntary pension insurance, life insurance and other support (other than salary) for employees...

*Structure and contents of account 338 - Other payables and payables*

Debit - Dr:

- Union expenses paid at the unit;

- The number of social insurance, health insurance, unemployment insurance and labor union paid to the agency managing the social insurance, health insurance, unemployment insurance and trade union funds;

Credit - Cr:

- Deducting social insurance, health insurance, unemployment insurance and labor insurance into production and business expenses or deducted from employee's salary;

- Payments to employees for housing, electricity, and water in the dormitory;

- Trade union expenses in excess of expenses are compensated;

- Social insurance number paid to employees when paid by the social insurance agency;

Credit balance:

- Deducted social insurance, health insurance, unemployment insurance and labor unions have not yet been paid to the management agency or the union dues left to the unit have not been fully spent;

Credit balance (or Debit balance): The debit balance reflects the amount paid, paid more than the amount due, payable or the amount of social insurance paid to employees that has not yet been paid and the excess union dues that have not been compensated.

***Account 338 - Other payables and payables, here are 4 accounts at level 2, reflecting social insurance, health insurance, labor insurance, unemployment insurance:***

- *Account 3382 - Union funds:* Reflect on the deduction and payment of trade union fees at the unit

- *Account 3383 - Social insurance:* Reflect the situation of deduction and payment of social insurance in the unit.

- *Account 3384 - Health Insurance:* Reflect the situation of deduction and payment of health insurance in the unit.

- *Account 3386 - Unemployment insurance:* Reflect the situation of deduction and payment of unemployment insurance at the unit.

***Accounting methods for social insurance, health insurance, unemployment insurance, and unemployment insurance***

- When deducting social insurance, health insurance, unemployment insurance, and personal care insurance, record:

Dr. Acc 622, 623, 627, 641, 642 (amount included in production and business expenses)

Dr. Acc 334 - Payable to employees (the amount deducted from the employee's salary)

Cr. Acc 338 - Other payables and payables (3382, 3383, 3384, 3386).

- When paying social insurance, health insurance, unemployment insurance, and personal control, write:

Dr. Acc 338 - Other payables and payables (3382, 3383, 3384, 3386)

Cr. Acc 111, 112,...

- Social insurance must be paid to employees when taking sick leave, maternity leave..., record:

Dr. Acc 338 - Other payables and payables (3383)

Cr. Acc 334 - Payable to employees.

- Expenditure on trade union expenses at the unit, record:

Dr. Acc 338 - Other payables and payables (3382)

Cr. Acc 111, 112,...

- The excess trade union expenses are compensated, when receiving the money, the following accounts shall be recorded:

Dr. Acc 111, 112

Cr. Acc 338 - Other payables and payables (3382).

**c) The accounting method for accruing employees' leave wages according to the current accounting system of Vietnam**

Accountants use Account 335 – Payable expenses (Article 54 - Circular No. 200/2014/TT-BTC) to record payables to employees during the period in terms of leave wages and other benefits. Production and business expenses of the reporting period must be deducted in advance, such as: Expenses during the time the enterprise stops production according to the season, the season can develop a plan to stop production. Accountants calculate in advance and account for production and business expenses in the period the expenses that will be spent during the period of stopping production and business.

- The advance deduction for production and business expenses in the period must be calculated strictly (estimated costs and approved by competent authorities) and there must be reasonable and reliable evidence of the expenses to be deducted in advance in the period, to ensure that the payable expenses recorded in this account are consistent with the actual expenses incurred. It is strictly forbidden to make advance deductions for expenses that are not included in production and business expenses.

Structure and contents of account 335 – Expenses payable

Debit - Dr:

- Actual payments incurred have been included in payable expenses;

- The difference in payable expenses is greater than the actual amount of expenses recorded as a reduction in expenses.

Credit - Cr: Expenses that are expected to be paid in advance and recorded in production and business expenses.

Credit balance: Expenses payable have been included in production and business expenses but have not actually been incurred.

*Accounting method for some major economic transactions*

(a) Deducting in advance the cost of salary leave of production workers, record:

Dr. Acc 622 - Direct labor costs

Cr. Acc 335 - Expenses payable.

(b) When calculating the actual leave salary payable to production workers, if the advance deduction is greater than the actual payable amount, record:

Dr. Acc 335 - Expenses payable (pre-quoted number)

Cr. Acc 622- Direct labor costs.

(c) Deducting in advance into production and business expenses the expenses that are expected to be spent during the period of temporary cessation of work, or the cessation of work according to the plan, record:

Dr. Acc 623 - Cost of using construction machines

Dr. Acc 627 - General production costs

Cr. Acc 335 - Expenses payable.

(d) Actual expenses incurred in connection with the accrual expenses are recorded:

Dr. Acc 623, 627 (if the generated number is greater than the previous deduction)

Dr. Acc 335 - Expenses payable (pre-quoted number)

Dr. Acc 133 - Deductible VAT (if any)

Cr. Acc 111, 112, 152, 153, 331, 334

Cr. Acc 623, 627 (if the generated number is smaller than the previous deduction)

**d) The method of accounting for bonus and welfare funds according to Vietnam's current accounting system**

Bonus and welfare funds are deducted from the enterprise's after-tax profits to be used for rewarding and encouraging material benefits, serving public welfare needs, and improving and enhancing material living standards. quality and spirit of employees.

+ Account 353 - Bonus and benefits used to reflect the current number, increase and decrease of bonus fund, welfare fund and bonus fund of the company's executive management board. Bonus and welfare funds are deducted from the enterprise's after-tax profits to be used for rewarding and encouraging material benefits, serving public welfare needs, and improving and enhancing material living standards. quality and spirit of employees.

+ The appropriation and use of bonus funds, welfare funds and bonus funds for executive management of the company must comply with current financial policies.

+ Bonus funds, welfare funds and bonus funds for the management and administration of the company must be accounted for in detail by each type of fund.

***Structure and content reflected by the account 353 – Bonus and benefits***

Debit - Dr:

– Expenditures on bonus fund, welfare fund, bonus fund for executive management of the company;

– Provide bonus and welfare funds for subordinates.

Credit - Cr

– Deduction for setting up bonus fund, welfare fund, bonus fund for executive management of the company from profit after corporate income tax;

– Bonus and welfare fund granted by superiors;

Credit balance: Number of bonus and welfare funds of the enterprise.

Account 353 – Bonus and benefits, have 4 tier 2 accounts:

– Account 3531 – Bonus fund: Reflects the current amount, the situation of setting up and spending the bonus fund of the enterprise.

– Account 3532 – Quỹ phúc lợi: Reflects the current number, the situation of setting up and spending the enterprise's welfare fund.

***Accounting method for some major economic transactions:***

- During the year, when temporarily deducting bonus and welfare funds, record:

Dr. Acc 421 – Undistributed after-tax profit

Cr. Acc 353 - Bonus and benefits (3531, 3532, 3534).

- At the end of the year, determine the bonus and welfare fund to be deducted additionally, record:

Dr. Acc 421 – Undistributed after-tax profit

Cr. Acc 353 - Bonus and benefits (3531, 3532, 3534).

- Calculate bonuses payable to employees and other employees in the enterprise, record:

Dr. Acc 353 - Bonus and benefits (3531).

Cr. Acc 334 – Payable to employees.

- Use the welfare fund to pay for hardship allowances, for employees and workers on vacation, for cultural movements and mass arts, to record:

Dr. Acc 353 - Bonus and benefits (3532)

Cr. Acc 111, 112.

- When selling products and goods to be paid for by the bonus and welfare fund, the revenue shall be recorded excluding VAT payable:



Dr. Acc 353 - Bonus and benefits (total payment price)

Cr. Acc 511 – Revenue from sales of goods and provision of services

Cr. Acc 3331 – VAT payable (33311).

- When superiors grant bonus and welfare funds to subordinate units, record:

Dr. Acc 353 - Bonus and benefits (3531, 3532, 3534)

Cr. Acc 111, 112.

- Number of bonus and welfare funds downgraded by superior units, record:

Dr. Acc 111, 112,...

Cr. Acc 353 - Bonus and benefits (3531, 3532).

- Using the welfare fund to support disaster areas, fires, charity spending:

Dr. Acc 353 - Bonus and benefits (3532)

Cr. Acc 111, 112.

#### **4.1.3. Limitations in the current regulations on accounting for employee benefits in Vietnam.**

##### ***Firstly, there are limitations in the current regulations on salary accounting in Vietnam***

Wage is the amount that the employer pays the employee under an agreement to perform the work, including the salary according to the job or title, salary allowance and other supplements.

As a general rule, wages are recognized as an expense in the income statement in the period in which they are incurred (Except for wages that are directly attributable to the formation of the asset, it is recognized in the value of assets, for example fixed assets and inventories).

However, for state-owned enterprises whose wages are determined according to the salary fund mechanism, this mechanism has different characteristics from the salary payment mechanism under labor contracts. VAS does not have specific regulations for the salary fund mechanism and the accounting is usually done based on the state regulations related to the preparation and use of the salary fund.

Basically, payroll accounting according to IFRS is similar to VAS. However, for state-owned enterprises whose salary is determined according to the salary fund mechanism, these enterprises need to deal with a few issues after applying IFRS:

+ Firstly, the advances and expenditures in excess of the salary fund made for the reporting period lead to a refund from the salary fund of the following year.

If the financial mechanism does not allow the excess to be included in the production and business expenses of the current year, it will make a difference in the recognition of expenses when applying IFRS. According to IFRS, the amounts spent in excess of the realized salary fund are considered as incurred expenses related to the work performed by the employees and must be included in the expenses in the income statement in the period in which they are incurred. resulting

in a decrease in reported profits), except for wages that are directly attributable to the formation of the asset, which is included in the value of the asset.

+ Second, enterprises whose salary is determined according to the salary fund mechanism needs to be handled by setting up a reserve fund to supplement the salary fund of the following year. IFRS does not allow provisioning for future operating expenses. Therefore, if the enterprise has recognized this provision, it must be adjusted to reverse when applying IFRS (leading to an increase in reported profit).

***Secondly, there are limitations in the current regulations on accounting for bonuses and short-term benefits in Vietnam***

Bonus is the amount of money or property or in other forms that the employer rewards the employee based on the production and business results, the level of work completion of the employee. Some enterprises have a bonus and welfare fund set up according to the internal regulations of the enterprise, which is extracted from profits after corporate income tax and used to pay bonuses and benefits for employees.

Similar to wages, bonuses and benefits are recognized as expenses in the income statement in the period in which they are incurred, except that wages that are directly attributable to the creation of the asset are included in the value of the income statement asset. VAS guides the recognition of bonus and welfare fund deducted from profit after corporate income tax as a liability of the enterprise. Payments to employees from the bonus and welfare fund are recorded as a decrease in payables. The deductions into the bonus and welfare fund are therefore not reflected in production and business expenses.

According to IFRS, when employees have worked for the enterprise during the accounting period, short-term bonuses and benefits for employees related to the accounting period are always recorded as production and business expenses of the enterprise. employer even in the case of payment from bonus and welfare fund. Short-term bonus and welfare related to the time employees work in the accounting period but have not yet paid to employees at the end of the period is recognized as a liability of the enterprise.

When applying IFRS, enterprises that have established bonus and welfare funds need to deal with two issues as follows:

Firstly, determining whether the employee has worked in the accounting period gives rise to a present obligation for the enterprise to pay the bonus and welfare corresponding to the fund deduction. This depends on the regulations on the establishment and use of the bonus and welfare fund of the enterprise. A liability of an enterprise is recognized only when the above obligation exists at the end of the accounting period. If the enterprise has recognized a liability to the bonus and welfare fund while this obligation has not yet existed, it will need to adjust and write off the payable.

Second, enterprises need to adjust the recognition of bonus and welfare benefits that employees are entitled to in relation to the work performed by employees in the accounting period into production and business expenses in the period instead of deduction from profit after corporate income tax. This will result in a corresponding decrease in the reported profit of the business.

To better understand the accounting rules for wages and bonuses under IFRS, businesses need to learn more about IAS 19 - Employee Benefits.

Through the above analysis, it can be seen that the conversion from VAS to IFRS can make many differences right in the scope of some fairly basic economic operations related to salary, benefits and payment. for workers. Therefore, in order to successfully convert to IFRS, businesses need to carefully evaluate the effects and plan the transition now.

## **4.2. Complete solution for accounting Employee Benefits in Vietnam according to International Accounting Standard IAS 19 – Employee Benefits**

### **4.2.1. Purpose of IAS 19 – Employee Benefits**

The objective of this Standard is to guide the accounting principles and disclosures of employee benefits. This standard requires a recognition unit:

- (a) A liability payable when an employee has performed work in exchange for future benefits; and
- (b) An expense when an entity obtains economic benefits arising from work performed by employees in exchange for employee benefits.

### **4.2.2. Scope of application of IAS 19 – Employee Benefits**

This Standard applies to all employee benefits, with the exception of those covered by IFRS 2 - Shares Based Payments.

This Standard does not apply to reporting for employee benefits (see IAS 26 - Accounting and Reporting of Pension Funds).

Employee benefits covered by this Standard include those provided:

- (a) According to official welfare funds or formal agreements between the entity and individual employees, groups of workers or their representatives;
- (b) Subject to legal requirements, or industry agreements, whereby entities are required to contribute to national, local, sectoral or multi-participatory welfare funds employer; or
- (c) Because informal practices give rise to implicit obligations. Informal practices that give rise to implicit obligations when an entity has no choice but to pay employee benefits. An example of an implicit obligation is when a change in an entity's informal practices would result in unacceptable damage affecting the entity's relationship with employees.

### **4.2.3. Types of benefits for employees**

Employee benefits include:

- (a) Short-term employee benefits are expected to be paid in full within 12 months after the end of the annual reporting period in which the employee has performed work for the entity, such as:
  - (i) *wages, salaries and social security contributions;*
  - (ii) *annual leave and sick leave;*

(iii) *distribution of profits and bonuses; and*

(iv) *non-monetary benefits (such as medical care, housing, cars, and free or subsidized goods or services) to current employees;*

(b) Benefits after leaving work, such as:

(i) *retirement benefits (eg pensions and lump sum payments in retirement); and*

(ii) *other post-employment benefits, such as life insurance and post-employment medical care;*

(c) Other long-term benefits for employees, such as:

(i) *long-term paid leave, such as seniority leave or paid research leave;*

(ii) *Holidays and other long-term benefits;*

(iii) *long-term disability benefits; and*

(iv) *benefits when quitting*

Employee benefits include benefits provided to employees or to their dependents or beneficiaries and may be paid in cash (or in goods or services) directly to employees, to spouses, children or other dependents, or through other entities, such as insurance companies dangerous.

Employees can work for the unit full-time, part-time, indefinite, seasonal or short-term. For the purposes of this Standard, employees include directors and other management personnel.

#### **4.2.4. Solutions to improve accounting The welfare of employees in Vietnam according to International Accounting Standards IAS 19 – Employee Benefits**

**Firstly, the solution to complete accounting Short-term benefits for employees**

***Short-term employee benefits are recognized as an expense and a liability when the employee has performed work during the accounting period on an accrual basis.***

Note: Short-term employee benefits will not be discounted to present value.

- In case of absence/short-term paid leave (Short-term paid absences):

+ Cumulative paid holidays are holidays that are carried forward and can be used in the future if the number of days off in the current period has not been used up: Recorded as an accrual expense (accruals).

+ In case of non-accumulative paid leave: Recorded as an expense when incurred.

- For Bonus fund and profit distribution: Enterprises will recognize expected expenses for profit distribution and bonus if and only if both conditions are satisfied:

+ The business is obligated to make payments for these benefits, which arise as a result of past events.

+ Can a reliable estimate be made for this obligation

#### **Application situation:**

The unit has 100 employees, each person is entitled to 5 paid sick days per year. Unused sick leave

can be carried forward for a calendar year. Sick leave is subtracted from the total number of paid leave days of the current year and then of the previous year (according to the first-in, first-out method).

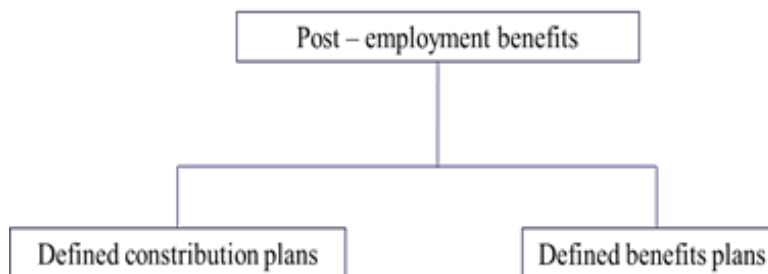
On December 31, 20X1, the average unused holiday is 2 days per employee. The unit expects, based on experience, that 92 employees will take sick leave of no more than 5 days in 20X2 and the remaining 8 employees will take an average of 6.5 days of sick leave

The entity estimates that it will pay an additional 12 days of sick leave for the accumulated unused sick days up to December 31, 20X1 (1.5 days pay for 8 employees). Therefore, the entity recognizes a liability equal to 12 days' wages.

Non-cumulative paid leave that is not carried forward will lapse if the leave of the current period is not fully utilized and does not allow the employee to receive cash payment for the unused leave. when leaving the unit. This is often the case with paid sick leave (past unused leave does not increase future leave), maternity or paternity leave, and paid leave for jury duty or military service. The entity does not recognize a liability or expense until the time of leave, because the employee's service time does not increase the value of benefits.

### **Second, the solution to complete the Welfare accounting after the working term is over**

Post-employment benefits is a formal or informal agreement under which an entity provides post-employment benefits to employees, including the following two types:



#### **a) Benefits fund with a defined contribution rate**

Benefits fund with defined contribution is a post-employment benefit fund under which the enterprise must pay fixed contributions to a separate unit (a fund), and there will be no legal or implied obligation to pay additional contributions in the event that the fund does not have sufficient assets to cover benefits for all employees in connection with current employment at and before of the employee.

The obligation to represent the enterprise's contribution is treated as an expense to the P/L for the period (should be clearly noted in the notes to the financial statements) and related outstanding amounts will be shown on Statement of Financial Position/Balance Sheet (SoFP/BS).

Example: Enterprise A agrees to pay an amount equivalent to 5% of the total annual income of all employees into a welfare fund after leaving work. In the fiscal year 31.12.2020, the business paid employees an amount equal to \$ 10.5m. The bonus of all employees for 2020 is determined to be \$3m and will be paid in March 2021. The enterprise has paid \$510,000 to the above benefit fund until December 31, 2020.

First, the enterprise has determined to pay a fixed amount equal to 5% of the employee's total income to the welfare fund after leaving, so this is a welfare fund with a defined contribution rate.

Total employee income in 2020 is  $\$10.5\text{m} + \$3\text{m} = \$13.5\text{m}$

The amount that the business must pay into the welfare fund is  $\$13.5\text{m} \times 5\% = \$675,000$

Enterprise A accounts as follows:

Debit P/L	\$675,000
Credit Cash	\$510,000
Credit Accruals (balancing)	\$165,000

### **b) Benefits fund with defined benefit level**

A defined benefit plan is any non-retirement benefit fund with a defined contribution rate.

Benefits fund with a defined level of benefits that employees receive after leaving work contributed by the enterprise and they are responsible for the increase or decrease of this fund.

Employee benefits are determined by reference to a formula usually based on the employee's income or years of service.

Example: Annual salary = Last year salary/60 x Number of years of service

**The model of a benefit fund with a defined benefit level is quite complicated and quite new in Vietnam**

+ **(1) General introduction:** Normally, a separate benefit plan (separate plan) is set up, which the business will pay regularly into this fund under the advice of actuary (fixer). This fund needs to be guaranteed that it has enough assets to pay future pensions for all pensioners.

When the enterprise joins a new welfare fund with a defined benefit level, a welfare asset will arise from the money that the enterprise puts into the welfare fund; Similarly, a corresponding benefit liability will also arise reflecting the payables to employees. The enterprise recognizes the benefit assets at their fair value and the benefit liabilities at their present value in the accounting records.

#### **+ (2) Measurement of plan obligation**

##### **a. Projected unit credit method**

The projected unit credit method treats each employee's period of service as an additional unit of benefit entitlement and these amounts are calculated independently to calculate the final benefit obligation. The present value of these future benefits will generate interest and this interest is recognized at P/L.

##### **b. Actuarial assumptions**

Actuarial assumptions are the entity's best estimates for the variables used to determine the cost of providing post-employment benefits. Assumptions based on statistical models usually include:

Demographics assumptions: mortality rate, employee retirement rate, disability and early retirement, ...

Financial assumptions: discount rate, future salary growth...

c. Current service cost

Current service cost is the increase in the present value of the benefit obligation, resulting from the employment of employees during the period. Current service cost will be recognized as an expense in the period above P/L. The accountant records as follows:

Debit	Current service cost (P/L)
Credit	Present value of obligation (SoFP/BS)

d. Compounding – interest cost

The benefit obligation is assessed at present value using the discount method at a specific interest rate. After each period, the welfare obligation will increase by an amount corresponding to the interest expense and is recognized as an expense in the period on P/L. The accountant records as follows:

Debit	Net interest cost (P/L)
Credit	Present value of obligation (SoFP/BS)

e. Re-evaluate welfare obligations

Gain or loss on revaluation may arise as a result of the difference between the actuarial valuation of a defined benefit obligation assessed at year-end and the accounting follow-up value. These revaluation gains or losses are recognized in OCI (and will not be carried forward to P/L in subsequent periods) in the accounting period in which they arise.

**+ (3) *Measurement of plan assets***

a. Concept

Welfare assets include: Assets such as stocks, which are held by the fund, are legally separate from the business, and can only be used to pay employees.

Insurance policies are issued by parties other than related parties, the money received can only be used to pay employees.

Interest income will be calculated on the benefit asset and will be netted against the interest expense of the benefit obligation. So interest income or net interest cost/income will be based on net welfare assets or net benefit obligation recognized in P/L. The accountant records as follows:

Debit	Present value of obligation (SoFP/BS)
Credit	Net interest cost (or income) (P/L)

For the enterprise's contribution to the welfare fund, the accountant records as follows:

Debit	Fair value of plan assets
Credit	Company cash

b. Reassess welfare assets

Over time, the value of an investment in welfare assets increases over time and is known as a return on plan assets

The difference between the gain on fund assets and net interest income or interest expense will be treated as a revaluation and recognized in OCI

+ (4) *Past service cost*

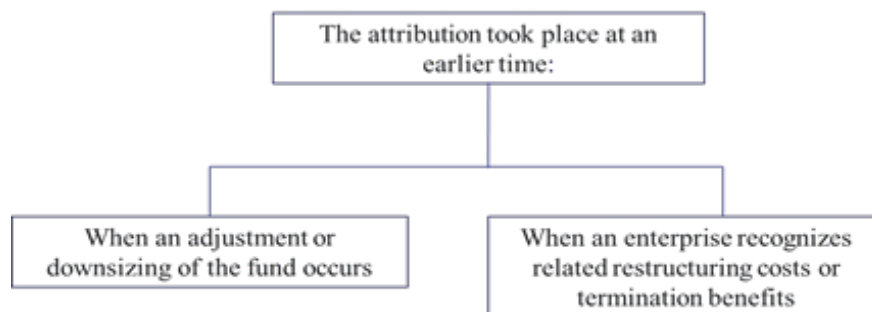
a. Concept

Past service cost is the increase or decrease in the present value of the welfare obligation arising from the employee's employment for the enterprise in the previous periods due to:

- Plan amendment: introduce or cancel, or change the defined benefit plan
- Curtailment: businesses significantly reduce the number of employees participating in the welfare fund.

b. Accounting principles

Past service costs affect the increase or decrease of benefit obligations and are recognized as an expense or income per P/L and recorded at:



+ Example: Enterprise A participates in a defined benefit fund for all employees. The present value of the benefit obligation as at 1.1.2020 is \$1,120m and the fair value of the benefit asset is \$1,040. The current interest rate based on some "blue chip" corporate bonds is 5%.

Information related to this welfare fund for the financial year ended December 31, 2020 includes:

Current service cost \$76m

Money paid to employees \$88m

Contribution of the business to the welfare fund \$94m

Present value of benefit obligation as at 31.12.2020 is \$1,222

The fair value of the welfare property as at December 31, 2020 is \$1,132

On January 1, 2020, the benefit fund was adjusted to further increase employee benefits and came into effect on the same day. The present value of this benefit increase is calculated at \$40m.



Assume that the contribution to the corporate welfare fund and the benefit fund money are paid to employees on December 31, 2020.

Please prepare P/L, OCI and SoFP for the fiscal year 31.12.2020.

a. Notes to P/L and OCI

- The cost of the benefit obligation is recognized at P/L

	<b>\$m</b>
Current service cost	76
Past service cost	40
Net interest expense (from SoFP note: \$58m – \$52m)	6
<b>Total</b>	<b>122</b>

- OCI (includes revaluation items related to a defined benefit fund)

Actuarial gain/(loss) based on welfare obligations (from SoFP's note)	(16)
Interest on welfare assets (from SoFP note)	34
<b>Deviant</b>	<b>18</b>

b. Explanation of SoFP

+ Net benefit obligation recognized at the balance sheet date

	<b>31.12.2019 (\$m)</b>	<b>31.12.2020 (\$m)</b>
Present value of the benefit obligation	1,222	1,120
The fair value of the welfare property	(1,132)	(1,040)
<b>Net liability</b>	<b>90</b>	<b>80</b>

+ Present value of the benefit obligation

	<b>\$m</b>
Opening balance	1,120
Interest cost of the benefit obligation $[(1,120 \times 5\%) + (40 \times 5\%)]$	58
Current service cost	76
Past service cost	40
Welfare funds paid out during the year	88
Gain/loss due to revaluation (balancing)	16
<b>Ending balance</b>	<b>1,222</b>

+ The fair value of the welfare property

	<b>\$m</b>
Opening balance	1,040
Interest income of welfare property $(1,040 \times 5\%)$	52
Contribution of business	94
Welfare funds paid out during the year	(88)
Gain/(loss) due to revaluation (balancing)	34
<b>Ending balance</b>	<b>1,132</b>

+ **(5) Settlement:** A settlement is a transaction which eliminates all legal or implied obligations with respect to all or part of the benefits paid out by the defined benefit plan.

Example: An enterprise pays an employee an amount in exchange for the right to receive specific types of benefits after leaving the job.

Gain or loss on this payment will be recognized in P/L. The calculation is as follows:

**Debit PV obligation (SoFP/BS)**

**Credit FV plan assets (SoFP/BS)**

**Credit Cash (SoFP/BS)**

**Credit/Debit P/L (balancing)**

+ **(6) Check the ceiling of the property (The 'Asset Ceiling' test)**

The amount recognized for welfare assets in the SoFP cannot exceed the recoverable amount. All welfare assets must be recognized at the lower of:

- Net book value
- Present value of any deductions for any future contributions to the benefit plan

## 5. DISCUSSION AND CONCLUSION

Through the analyzed contents, it can be seen that within the economic operations related to wages and benefits paid to employees, the application of international accounting standards can create significant differences in the results and financial position of an enterprise as shown in the financial statements. Besides technical issues in order to comply with the provisions of International Accounting Standards, the full and reasonable reflection of the costs related to wages and benefits paid to employees can create incentives to change the salary, bonus and welfare mechanisms for employees. Business leaders can manage these changes more effectively if they assess their effects before implementing International Financial Reporting Standards.

Employee welfare accounting is widely applied in many countries in the region such as Singapore, Malaysia, Thailand, Indonesia, and the Philippines.... Therefore, Vietnam should soon issue a new accounting standard on employee benefits, in order to unify the content in accounting, recording and presenting information in the financial statements of the enterprise's employee benefits. At the same time, ensure the interests of investors when using information on the financial statements of the entity. To soon issue legal documents providing specific professional guidance related to the management and accounting of employee benefits.

In general, the disclosure of information on employee benefits will contribute to improving the transparency of financial statements, It will help investors properly assess the actual financial capacity of the unit they are interested in investing in more effectively; helping business owners have a better view of their business value as well as useful information about other businesses in the same industry or the same level, especially in mergers and acquisitions... provide background information that is both theoretically and practically meaningful.

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# **EXPERIENCE IN DEVELOPMENT INVESTMENT OF IRRIGATION INFRASTRUCTURE ADAPTING TO CLIMATE CHANGE IN THE NETHERLANDS AND LESSONS FOR MEKONG RIVER DELTA**

**MA. Vu Thi Le Hoa<sup>1</sup>**

**Abstract:** *Climate change is one of humanity's biggest challenges in the 21st century. For Vietnam, over the past 50 years, climate change has seriously affected manufacturing industries and economic regions, especially the agricultural sector in the Mekong River Delta. One of the practical solutions to minimize the negative impacts of climate change on the agricultural sector is to invest in the construction of irrigation works to adapt to climate change. The Netherlands is considered a land with natural conditions similar to the Mekong River Delta and is also a prosperous country investing in the construction of irrigation works to prevent natural disasters for a long time. Through the descriptive statistical research methods, the following article focuses on analyzing the experience of investment in the construction of irrigation infrastructure in the Netherlands over the years, from which to draw experience lessons for the Mekong Delta: Irrigation strategies need to be strictly implemented from central to local levels, applying modern advanced technology to the construction of irrigation works, combining the construction of the irrigation system with the construction of the modern transportation system.*

**Keywords:** *Development investment, irrigation, Netherlands, Mekong Delta, climate change.*

## **1. INTRODUCTION**

The Mekong Delta is the region at the end of the Mekong River Basin, spanning 6 countries. After more than 30 years of renovation, the Mekong Delta has made a remarkable development, becoming a key agricultural region of the country. In order to contribute to promoting the agricultural development of the region, irrigation infrastructure plays an important and strategic role. The smooth irrigation infrastructure will ensure the irrigation of crops and livestock; at the same time, it helps transport harvested products more easily, reduce transportation costs, increase product prices, and contribute to increasing income for farmers. Irrigation is the leading measure to develop agriculture in the Mekong Delta.

Faced with the increasingly serious climate change situation, 10 out of 13 provinces in the Mekong Delta have been affected. In recent years, salinity intrusion has been more irregular and saline intrusion has been deeper inland than before, typically in the dry season of 2016, there was a historic drought, causing great damage to agriculture at the seaside. Followed by saline intrusion in the dry season in 2019-2020, the salinity limit of 4 grams/liter has affected 42.5% of the entire Mekong Delta area. The impact of climate change has changed the entire face of this

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delta. If in the past, the thinking in agricultural development as well as investment in irrigation infrastructure was to combat salinity, now that thinking has changed to living with drought and salinity, thereby leading to a change in thinking about investment. irrigation of the region. Faced with that requirement, the Mekong Delta needs to learn from the experiences of other countries and economic regions on investment in irrigation to adapt to climate change, thereby developing the region's agriculture and improving the income for farmers.

The Netherlands is the country with similar natural conditions to the Mekong Delta such as both lowland lands, located in the lower reaches of the rivers; often flooded and affected by salinity in the estuaries. Moreover, this country is also considered as one of the countries with a very developed irrigation system to preserve its land. Therefore, the Mekong Delta can learn from the experience of the Netherlands to invest in more modern irrigation infrastructure, adapt to climate change and develop agriculture in the region.

## **2. LITERATURE REVIEW**

Climate change has been becoming a global issue, receiving the attention of scientists, leaders, and all humankind.

According to the 1992 United Nations Framework Convention (United Nations, 1992), climate change is a change in the climate caused by human activities that directly or indirectly changes the composition of the global atmosphere and due to the natural variability of climate observed over comparable time periods [16]. According to IPCC (Intergovernmental Panel on Climate Change), 2007 refers to the concept, manifestations, causes and impacts of climate change [5]. Climate change refers to a change in the state of the climate that can be determined to take place over a long period of time, usually a decade or more. Climate manifestations such as increasing temperatures, changing rainfall patterns, droughts and floods appear more frequently. This concept is also presented in the studies Climate change with green growth (Department of Meteorology, Hydrology and Climate Change, 2018) [2], Climate change and impacts in Vietnam (Nguyen Van Thang et al., 2010) [11], Responding to climate change in industrial, urban and construction activities (Tran Duc Ha et al., 2013) [14].

Studies on investment and development of irrigation infrastructure in the Mekong Delta focus on solutions to adapt to climate change such as the study "Evaluating the operational efficiency of irrigation works systems". in agricultural production in Soc Trang" by Nguyen Thi My Linh et al (2017) [11], "Irrigation solutions for adaptive agricultural development in the Mekong Delta in the future" by Le Manh Hung and (2020) [7], "Overall solutions for irrigation development in the Mekong Delta" by Do Duc Dung [3]. However, there are almost no in-depth studies on the experience of investment in irrigation development adapted to the current climate. Climate change in the Netherlands and lessons for the Mekong Delta.

## **3. THEORETICAL BASIS**

### ***a. Climate change***

According to the Paris Agreement (2015), climate change means a change of climate that is attributed directly or indirectly to human activity that alters the composition of the global

atmosphere and which is combined to add to the natural variability of climate observed over comparable periods.[18]

In Vietnam, according to the National Target Program to respond to climate change (Ministry of Natural Resources and Environment, 2008), climate change is understood as a change in the state of the climate compared to the average and/ or fluctuations in climate that persist for an extended period, often decades or longer. Climate change can be caused by natural internal processes, external influences, or human activities that change the composition of the atmosphere or land use [10].

Thus, climate change is the change of climatic factors (temperature, wind, humidity, clouds, precipitation) around the average value when considered over a long time.

According to IPCC (2007) [5], the manifestations of climate change include:

- The average global temperature increases due to the warming of the global atmosphere;
- Sea level rise due to water expansion as temperatures rise and ice melts;
- Changes in the composition and quality of the atmosphere;
- The movement of climate zones over different regions of the Earth;
- Changes in activity intensity of atmospheric circulation, water cycle in nature, and other biogeographic cycles;
- Changes in biological productivity of ecosystems, quality, and composition of the hydrosphere, biosphere, and geosphere.

However, an increase in the average global temperature, sea-level rise, a change in precipitation regimes, and an increase in extreme climate events (such as droughts, storms, floods, flash floods, cyclones, etc.) are often referred to as critical manifestations of climate change.

### ***b. Irrigation development investment***

According to Vietnamese Dictionary (1998), irrigation is the taking advantage of water and combating its harmful effects.[4]

According to the Law on Irrigation (2017), Irrigation is a combination of solutions to store, regulate, transfer, distribute, supply, irrigate, drain and drain water for agricultural production, aquaculture and production. salt; combine water supply, drainage and drainage for daily life and other economic activities; contribute to preventing and fighting natural disasters, protecting the environment, adapting to climate change and ensuring water security.[6]

Therefore, according to the author, irrigation is a measure of harmonizing water requirements with the amount of water coming from nature in the area; It is also a combination of measures to exploit, use and protect water sources, and at the same time limit the damage caused by water.

Investment in the development of irrigation infrastructure is the use of capital and other resources to build irrigation works, creating assets that are necessary works and equipment for irrigation activities, in order to meet the needs of irrigation projects. water resources to develop the national economy.

#### **4. METHODOLOGY**

To clarify the research problem, the article uses descriptive statistical research methods, analyzes the experience of investment in developing irrigation infrastructure to adapt to climate change in the Netherlands and lessons learned from the study. experience for the Mekong Delta. The author collects information from the Ministry of Agriculture and Rural Development including data on the current status of irrigation investment in the Mekong Delta. From there, I will analyze and evaluate the current status of irrigation investment in the region about the achieved results, the remaining limitations.

#### **5. THE REALITY OF DEVELOPMENT INVESTMENT OF IRRIGATION INFRASTRUCTURE ADAPTING TO CLIMATE CHANGE IN THE MEKONG RIVER DELTA**

The Mekong River Delta belongs to Vietnam's territory and is the end of the Mekong Delta, including 13 provinces/cities, including Long An, Tien Giang, Dong Thap, Vinh Long, Tra Vinh, Hau Giang, Soc Trang, Ben Tre, An Giang, Kien Giang, Bac Lieu, Ca Mau and Can Tho city with a total natural area of about 3.96 million hectares, accounting for 79% of the delta's area and equal to 5% of the entire Mekong basin area.

The Mekong River Delta plays a vital role in the socio-economic development of Vietnam. With great agricultural potential, the Mekong River Delta has always led the country to export rice, fruits, and seafood, with about 90% of the country's rice exports, from which it was decided to implement the national food security plan strategy successfully. To meet the development needs of the Mekong River Delta, over the past 30 years, many irrigation works have been built. However, with natural and market fluctuations in recent years, along with the transformation of production structure on a large and widespread scale from 2001 to now, it has been posing many problems for the aquatic industry. In addition, in recent years, climate change has become more evident and complicated, especially on two factors: upstream and sea-level rise. Therefore, the investment in the construction of irrigation infrastructure plays an increasingly vital role in ensuring proactive water supply, drainage, flood control, and saltwater control; proactively responding to climate change.

##### ***a. The results***

Along with the irrigation works that have been built over the past 30 years, with a large amount of capital up to tens of thousands of billion dong, mobilized at both the central, local and people, the Mekong River Delta has formed into a fairly complete system of irrigation works, gradually meeting the requirements of socio-economic development of the whole delta [19].

- Regarding irrigation and water supply: about 1.4 million hectares (over 90% of the winter-spring and summer-autumn crops) have been actively irrigated by a system of canals and culverts at all levels, even in areas with limited resources. Due to many low-lying areas and large flood-affected areas, the drainage system can only serve about 80% of the agricultural production area to produce stable water production for two rice crops, Winter-Spring crop and Summer-Autumn crop.

- Regarding flood control: right from the early 90s of the 20<sup>th</sup> century, facing the requirement of increasing the crop and ensuring the production of the summer-autumn crop, people in the

flooded areas of the Mekong Delta have deployed the embankment form to control floods at the beginning of the crop, bringing practical effects to flooded areas. Up to now, although the flood control embankment system was developed at the beginning of the crop season, in many places, the transition to full-year flood control, even in the average flooded area (from 1.5 to 2.5m), is spontaneous. However, with the flood control system invested by the State, including dikes to protect concentrated residential areas, it must be seen that flood control in the Mekong Delta is the way forward. Properly has achieved remarkable results, helping stabilize and develop socio-economic in general and agricultural production in flooded areas. Along with the system of residential clusters built according to the residential program in flooded areas, the combined irrigation system has connected the residential areas with the inter- district, inter - provincial, and national traffic systems, creating solid, safe, and active living areas in the flooded area.

- Regarding the system of sea dykes and estuary dykes: Currently, the total length of dykes in the Mekong Delta is about 1,359 km, of which 618 km are sea dykes and 741 km are estuary dykes. The estuary dyke length is 30 km for large rivers and 10 -15 km for small rivers and canals. Most of the sea dykes are located along and 200 - 500 m from the coast for the West Sea route 500 - 2,000 m for the East Sea route. The coastal areas and estuaries of the Mekong River Delta have gradually formed a system of dikes to prevent saline intrusion, control high tides, and waves, and gradually improve their ability to cope with sea-level rise caused by storms. Many dyke lines have effectively promoted salinity control and disaster prevention, such as dikes in Tien Giang, Tra Vinh, Soc Trang, Bac Lieu, and Kien Giang.

#### ***b. The limitations***

- About dyke system and estuary dyke system: Forecastedly, if not proactively responded, in a short period, due to the impact of global climate change, sea-level rise will make about 15,000 – 20,000 square kilometers in the Mekong Delta were flooded, of which 9/13 provinces were almost completely flooded, making agricultural production difficult. Meanwhile, the height and endurance of the sea dyke system in the Mekong Delta have not yet met the requirements of preventing sea-level rise and the destructive power of solid waves. The sea-dyke section passing through U Minh, Tran Van Thoi, and Phu Tan districts in Ca Mau province and Hon Dat district in Kien Giang province in the West Sea route, extending from Ca Mau to Kien Giang for about 260km, is currently severely eroded. In Ca Mau alone, there are nearly 20 sea-dykes with a total length of more than 2,500 m. The sea dyke in Soc Trang province is more than 70 km long, but seawater has invaded many sections of Vinh Chau and Cu Lao Dung districts. In Bac Lieu province, the sea dyke is 56km long but can only withstand storms of grade 9 and storm level 10-12; breaking the dyke is inevitable. The Kien Giang protective sea dike route is nearly 100 km long, with over 60 points being eroded in which; the dike route passes through Tay Yen and Van Khanh communes of An Bien district; Tho Son, Binh Son, and Binh Giang communes of Hon Dat district suffered the most with over 20 sections, in some places the broken dike section was from 6 to 10 m wide. Remarkably, the East Sea dyke line in Ca Mau province is more than 150 km long and has not been built.

- Currently, there is no close combination between investment in irrigation infrastructure and



other fields, especially traffic in the Mekong River Delta, thus increasing investment costs and wasting social resources. Irrigation construction projects that have implemented most of the canal construction items are not thoroughly combined with the canal banks to form an in-field road. This is a significant shortcoming of the investment. In addition, there is no sluice to bring water to the farming area, so people have to dig canals into channeling water for irrigation, causing further damage to the bank system.

- In some areas, the work system is not synchronized and closed, so the effectiveness is not high, such as the Ba Lai system, and the Quan Lo - Phung Hiep system. Many irrigation works, which have been invested for a long time, have been seriously degraded over time and are not guaranteed capacity serving as design; Simultaneously, with the changing rules of floods and saltwater intrusion, irrigation works cannot meet service requirements.

- The existing irrigation system is based on the previous irrigation system for rice cultivation, which does not satisfy the technical requirements for water management, water supply, and drainage for the following other farming models.

## **6. EXPERIENCE IN INVESTMENT AND DEVELOPMENT OF IRRIGATION IN THE NETHERLANDS**

Located in the northwest of Europe, the Netherlands is known as a delta region with about two-thirds of the area below sea level. The Dutch country itself in English - Netherlands - also means "lowland" [8]. The lowest point of this country is -6.67 m above sea level. Since ancient times, the Dutch built dikes to block the sea and used windmills to pump and drain water to cope with the change in water sources and preserve their land. That work lasted for many centuries until today, and this country has the most modern sea dyke system in the world.

In the current context of climate change, the Dutch government found that: The safety standards of many works have not met the requirements, about 30% of the length of the dyke has a lower elevation than required; (ii) Many design standards are outdated; (iii) In the context of climate change, sea-level rise and increased flood flows lead to a safety problem during the flood season, which is threatened, reducing low flows leading to drought and saltwater intrusion. Therefore, in December 2007, the Dutch Government established a Delta Committee to provide advice with a long-term vision for protecting and sustainable development of coastal areas and lowlands. The big task is ensuring that the Netherlands can be safe from climate change for a long time, safe from the risk of flooding, while remaining a good land attractive to live, reside and work.

Regarding irrigation in the Netherlands, two great works of water treatment must be mentioned: the Zuiderzee project - a system of dams and drainage works in the Northwest region, and the Telework project - a vast sea dike system in the Southwestern region of the Netherlands.

The Zuiderzee project with many essential items was built from 1920 to 1975, the most important of which is the Afsluitdijk dike. This is a work that demonstrates the aspiration and ability of man to conquer nature. This sea dyke runs from Cape Den Oever in the province of Noor Holland to Cape Zurich in Friesland. The total length of the sea dike route is more than 32 km, 90m wide, and the initial height is 7.25m above mean sea level. What is extraordinary is that the construction phase was carried out over 6 years, from 1927 to 1933. Following the

approval decision of the Dutch Parliament in 1916, the Afsluitdijk sea dyke played a decisive role in the overall planning. The Netherlands' most enormous coordination of hydrology, flood control, saltwater washing, and irrigation in the 20th century. The main aim of the project is to help the Netherlands minimize the impact of the North Sea on fisheries activities. And agriculture in the Northern provinces. The selected option is to isolate Zuiderzee saltwater intertidal bay, improve water quality, and estuarine ecosystems into IJsselmeer freshwater "lakes and oceans" with a total water surface area of about 1,100 square kilometers, expanding the land area further. Settlement and agriculture.

In the southwest of the Netherlands, where the Delta project is being implemented, is a delta divided by many estuaries. In mid-1956, the Dutch Government officially approved the complete Delta project (blocking all estuaries to minimize the possibility of seawater encroachment inland) with a cost of 9 billion USD. Accordingly, 65 giant concrete breakwaters will be built, together with 62 mobile steel valve gates hanging between the breakwaters with a total length of 6.8 km; the two estuaries, West Scheldt and New Waterway will not be completely closed. The gates are 5m thick and 40m wide, varying in height from 6m to 12m depending on their position in the dam. From 1958 to 2002, the Netherlands implemented the Delta project, creating a system of sea breakwaters and flood prevention considered the most perfect in the world. The works include dams, culverts, locks, dikes, and storm surge barriers to shorten the coastline, thereby reducing the number of dykes to be built.

## **7. LESSONS FOR THE MEKONG RIVER DELTA**

The delta in the Netherlands and the Mekong Delta of Vietnam have similar topographical conditions, such as being located in the lower reaches of rivers, with low topographical features, affected by salinity and tides from the sea and flooding from upstream rivers and streams. In addition, the Netherlands is also famous as a country with about a quarter of the country's area lying between 1meter and 6 meters below sea level on average. Due to the vital existence of the nation, the Dutch developed their deltas into inhabited and prosperous lands by building irrigation systems such as canals, sea dykes, and river dykes for hundreds of years this year. Therefore, learning and applying experiences in investment and construction of irrigation works to adapt to climate changes in the Netherlands help the Mekong Delta a lot.

- Irrigation work to prevent natural disasters in the Netherlands has a long tradition and has become a national policy. In addition, the strategies, master plans and plans for implementing irrigation work are clear step by step. At the same time, strategies, master plans, and plans are implemented synchronously and closely from the central to the local level.

- Building a sea dike system to prevent natural disasters and building a system of modern roads to save investment, save the land and facilitate exploitation and management.

- Continue to grasp and use the concept of using flood-slowing and flood-division zones to achieve goals such as storing fresh water and creating areas of rich biodiversity in combination.

- Applying modern advanced technology to the construction of irrigation works. The

Netherlands is rated as the largest country in the world in terms of tidal sluice gates, the unique type of vertical shaft gate valve, the most special foundation treatment method, and the unprecedented method of battery construction. In irrigation engineering. Vietnam can learn from these new technologies to build climate-resilient irrigation schemes.

- Continue to learn from the Dutch experience in planning to respond to climate change. At the same time, invite Dutch experts to help the Mekong River Delta with experience in planning, experience in construction design, and experience in organizing the management apparatus

## CONCLUSION

Due to the significant impacts of climate change on the agricultural industry and people's lives, the issue of investment and development of irrigation infrastructure in the Mekong Delta has become an urgent requirement [1]. Thanks to the irrigation infrastructure built in recent years, which has contributed to the Mekong Delta's national food security, however, in the process of investing in the development of irrigation infrastructure, there are still limitations, such as projects have not been invested synchronously; there is no close combination between investment in irrigation infrastructure and investment in other infrastructures, leading to waste of investment capital and infrastructure; the irrigation infrastructure has deteriorated and has not been repaired. Therefore, in order to develop agriculture and stabilize people's lives before the impacts of climate change, the Mekong River Delta should learn about the Netherlands' experience and focus on investing in developing a more modern and synchronous irrigation infrastructure to adapt to climate change in the coming time.

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# LEGAL ASPECTS OF TAX ADMINISTRATION IN THE CONTEXT OF THE DEVELOPMENT OF DIGITAL ECONOMY IN VIETNAM

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**Abstract:** *Digitalization of economic activities has created tremendous growth opportunities for the global economy. Digital economy has created new ways of doing business and creates a new face for the entire socio-economy. The digital economy has also created opportunities and challenges to tax administration. Tax administration is forced to change in order to adapt to digital economy. This article analyzes the impacts of the development of the digital economy on tax administration. The article also analyzes the need for tax administration reform in the context of the digital economy development in Vietnam. The most important finding of this research is that the limitations of Vietnam's legal corridor for tax administration in the context of digital economy have been identified. Those are: (1) The roadmap for transforming the tax legal system to adapt the new business conditions of the digital economy has not been determined; (2) The law on value-added tax has not been revised to clearly to apply destination principle in the provision of cross-border digital services as a basis for value-added tax; (3) The law on corporate income tax has not been amended to determine the permanent establishment suitable to the digital economy; (4) The multilateral tax agreement has not been signed yet by Vietnam Government to address the challenges posed by the development of the digital economy as analyzed; (5) The current legal regulations on the responsibilities of organizations and individuals related to E-commerce activities of individuals selling goods through E-commerce trading floors have not fully grasped the principle of "deduction at source" in new context. On the basis of discovering the current situation of the legal corridor on tax administration in terms of meeting the requirements of the development of the digital economy, the article proposes a number of orientations to improve the legislation on tax administration in Vietnam adaptable to the development of digital economy among which, the following suggestions are notable: (1) A roadmap for transforming the tax legal system to adapt the new business conditions of the digital economy should be soon determined; (2) It is necessary to redefine criteria to distinguish business fields and business lines and classify products and services associated with the digital economy, especially some fields related to technical services on internet, digital business and the sharing economy; (3) it is necessary to stipulate the responsibilities of E-commerce trading floors in withholding and paying tax on behalf of an individuals who conduct sale in E-commerce trading floors in a certain cases.*

**Key words:** *Digital economy, legal aspects, tax administration.*

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## 1. METHODOLOGY

In this study, we used the following methods:

**Qualitative analysis:** By this method, we analyze the nature of the digital economy, discover the characteristics of the digital economy, and evaluate the need for tax administration reform in the context of the development of the digital economy.

**Correlation analysis:** By this method, we assess the impacts of the development of the digital economy on tax administration and the need to reform tax administration in the context of the development of the digital economy.

**Statistical analysis:** Based on economic statistics and tax administration results to evaluate the regularity and changing trends of tax administration in the context of the development of digital economy in Vietnam.

## 2. LITERATURE REVIEW

Digital economy is a hot topic with many debates among scholars in recent years. Since the development of the digital economy, a need of understanding how the governments' administration would change in the context of digital economy, including tax administration, have spurred scholars to do and publish their researches on this field.

The published researches have explained the nature of the digital economy and its characteristics. Nguyen Van Thuc (2021) defines digital economy as an economy that operates primarily based on digital technology, especially advanced electronic transactions operate through the internet. Digital economy covers all sectors and economies (industry, agriculture, services; production, distribution, circulation of goods, delivery transportation, finance, banking etc.). Yustinus Prastowo (2015) pointed out that the digital economy is characterized by the following factors: (1) E-commerce; (2) App stores; (3) Online advertising; (4) Cloud computing; (5) High frequency trading; (6) Participative networked platform; (7) Online payment service.

Digitalization of economic activities has created tremendous growth opportunities for the global economy. Digital economy has created new ways of doing business and creates a new face for the entire socio-economy. The digital economy has also created opportunities and challenges to tax administration. Tax administration is forced to change in order to adapt to digital economy (Nguyen Van Thuc, 2021).

KPMG (2019) has reviewed the changes in tax laws of many countries around the world to address the challenges that the digital economy poses to taxation, both direct and indirect taxes.

Business models in the digital economy have posed two challenges to tax administration in the digital economy: (1) The problem in determining a permanent establishment related to the physical presence of the business establishment; (2) The distribution of profits among multinational corporations according to the arm's length price. Therefore, it is necessary to apply multilateral and unilateral approaches to tax administration in the context of the digital economy. The top concerns in terms of taxation in the digital economy include: (1) Taxation for cross-border digital services; (2) The determination where the goods and services consumed to apply

destination principle in value-added tax; (3) The determination of permanent establishments when taxing corporate income (Solomon Rukundo, 2020).

Marcel Olbert, Christoph Spengel (2019) provides the evidence on the challenges of digitalization for direct (corporate profit) and indirect (consumption) taxation. Based on both anecdotal and empirical evidence, they evaluate ongoing developments at the OECD and European Union level and argue that there is no justification for introducing a new tax order for digital businesses. In particular, the significant digital presence and the digital services tax as put forward by the European Commission will most likely distort corporate decisions and spur tax competition. To contribute to the development of tax rules in line with value creation as the gold standard for profit taxation the paper discusses data as a “new” value-driving asset in the digital economy. It draws on insights from interdisciplinary research to highlight that the value of data emerges through proprietary activities conducted within businesses.

Le Xuan Truong (2019) proposes a number of solutions to improve the Vietnam’s tax administration legislation on e-commerce business and digital economic activities and cross-border e-commerce transactions among which, there are some crucial solutions: (1) Supplementing legal regulations on obligations to carry out procedures for registration and declaration of e-commerce business activities; (2) Supplementing legal regulations on responsibility to implement measures of supervision by tax authorities on electronic transactions of organizations and individuals doing business in e-commerce; (3) Applying the principle of determining the tax liabilities of foreign organizations and individuals doing business activities in Vietnam or creating value in Vietnam through cross-border e-commerce transactions.

From the overview of published researches on tax administration in the context of the digital economy, the nature and characteristics of the digital economy have been clarified. The challenges that the digital economy poses to tax administration are also analyzed clearly. A number of limitations of the Vietnam’s legal corridor on tax administration in terms of meeting the requirements of the digital economy have been mentioned but are not comprehensive. This shows that it is necessary to study and clarify the legal aspects of tax administration in the context of the digital economy in Vietnam.

### **3. AN OVERVIEW OF DIGITAL ECONOMY AND THE DEVELOPMENT OF DIGITAL ECONOMY IN VIETNAM**

The digital economy is the economic activity that results from billions of everyday online connections among people, businesses, devices, data, and processes. The backbone of the digital economy is hyper connectivity which means growing interconnectedness of people, organizations, and machines that results from the Internet, mobile technology and the internet of things (IoT). Thus, digital economy is an economy that operates mainly on digital technology, especially electronic transactions conducted through the internet.

Over the last four decades, Vietnam has experienced rapid industrialization, modernization and international integration. Vietnam is one of the fastest growing digital economies in ASEAN at a rate of 38% per year (Le Duy Binh and Tran Thi Phuong, 2020). As a result, its digital sector is expected to contribute 30% to Vietnam’s economy by 2030. In recent years, the speed of digitization of Vietnam’s economy has been quite strong. This is reflected in the explosive development of

information and communication technology as a key field of the digital economy as well as other areas of the economy such as E-commerce, Smart Health Technology, E-government, Fintech etc. These are mentioned specifically as follows:

- Information and communication technology is one of the fastest growing industries in Vietnam. In 2018, total revenue from the information and communication technology industry was USD98.9 billion, 13 times higher than 2010 revenue (USD7.6 billion). Revenue from the information technology industry reached USD12 billion in 2020 (Thuy Dieu, 2021) and nearly doubled in 2021 at USD21 billion. In the information and communication technology industry, fast-growing segments include hardware and software manufacturing and information technology services. The hardware industry is the largest branch of the information and communication technology industry in Vietnam, contributing 89% of the total revenue in 2018. The majority of revenue comes from the export of information and communication technology equipment. This is also the industry with the largest export turnover in the country. Vietnam's software industry has been also growing steadily and become an attractive destination in the region. In 2016, information technology outsourcing services brought in a profit of about USD3 billion (Vietnam Ministry of Science and Technology, 2019). The information technology industry has achieved an average growth rate of 14.7% in recent years, much higher than the economic growth rate, higher than the industry target (10% target). The software industry maintained a high growth rate, averaging 15% in the period 2016-2018. The average growth rate of the hardware, electronics and telecommunications industries is 20.24%. The average growth rate of the digital content industry is 7.47% (Thuy Dieu, 2021).

- E-commerce is one of the fastest growing segments in Vietnam's digital economy. According to the Ministry of Science and Technology (2019), Vietnam's E-commerce market has grown 35% per year, 2.5 times faster than Japan. E-commerce in Vietnam is booming with the rapid growth of mobile payment app (such as WePay) and the emergence of global crypto currencies usable via e-wallets which allow users to transfer money through peer-to-peer (P2P) transactions on the Internet as well as to pay for goods and services. According to the Department of E-commerce and Digital Economy, Vietnam's E-commerce had an impressive growth in 2020 with an increase of 18% with the market size of USD11.8 billion, accounting for 5.5% of the total domestic retail sales of goods and service revenue. Under the pressure of COVID-19, E-commerce has boosted for the last 3 years. Many businesses that were not used to sell online, now sell online. Many consumers who were never used purchase online now buy online. However, the market's purchasing ability was still heavily affected by the epidemic. The number of transactions increased sharply, but the revenue growth of the market decreased due to low value of E-commerce transactions during the COVID-19 period. The analysis of Global Data's E-commerce Analytics shows that with the current growth rate of E-commerce is approximately 18%. The market size of E-commerce is expected to reach USD26.1 billion by 2024.

- Vietnam's health sector is building a smart health system. In 2018, the health sector set out a plan to deploy digital technologies in three main pillars: (1) Smart disease prevention; (2) Smart examination and treatment; (3) And smart health management. Major hospitals in Vietnam have begun to build and deploy the Smart Clinic model.



- E-government has been strongly widened in recent years. In the period 2014-2017, Vietnam rose 10 places and ranked 88<sup>th</sup> out of 193 countries and territories on the United Nations e-Government Development Index (EGDI). E-Government continues to be a priority, with plans to develop and support the platforms and infrastructure for Internet of Things, smart cities, open data and the right to access inter-agency communication data.

- Vietnam is a new star in the global Fintech. The number of business incubators, support centers and innovation laboratories in Vietnam is 42. This number is higher than Indonesia (20), Malaysia (10), Thailand (5) and only after Singapore (52). In 2017, Vietnam had 48 Fintech companies providing services from payments to remittances and electronic money (Vietnam Ministry of Science and Technology, 2019). However, the share of services and products that Fintech companies offer has been changing. Although payment is still a type of product and service that accounts for a large proportion of Fintech startups, new areas (such as Insurtech, Wealthtech, Regtech etc.) have been emerging and is attracting interest from investors around the world.

- The sharing economy in Vietnam is growing day by day thanks to its cloud computing platform, high smartphone usage rate and low personal property ownership rate among Vietnamese consumers. For example, over the past five years, ride-sharing platforms have created competition with traditional taxi businesses. Vietnam was the first country in Asia to attract Uber and was also Uber's second fastest growing market in the world in 2015, excluding China. In 2018, Grab acquired Uber's operations in the ASEAN region, but Go-Jek (Go-Viet)'s entry into the Vietnamese market in September 2018 has boosted competition in the industry. Traditional taxi service providers in Vietnam are also developing their own platforms and mobile applications to compete.

#### **4. THE IMPACTS OF THE DEVELOPMENT OF DIGITAL ECONOMY ON TAX ADMINISTRATION AND THE NEED FOR TAX ADMINISTRATION REFORM IN THE CONTEXT OF THE DIGITAL ECONOMY DEVELOPMENT IN VIETNAM**

##### **◆ Opportunities:**

*Firstly*, the development of digital economy will create a favorable conditions to modernize tax administration. The development of the digital economy is attached with the development of information technology, the internet and modern technologies. It is information technology, the internet and other modern technologies that are the foundation for modernizing tax administration.

*Secondly*, the development of digital economy will push much pressure to reform tax administration. As we see above, the digital economy is much different from the traditional economy in the ways of doing business, the ways that businesses interact and the tools that the businesses use to operate their organizations. If no reform in tax administration done, many gaps of legal for taxation appear, and of course, tax losses will be more.

##### **◆ Challenges:**

*Firstly*, the possibility of tax base erosion. The digital economy creates opportunities for businesses to conduct business that are not subject to taxation by any country by avoiding creating a satisfying physical presence in accordance with previous international practices. At the same time, the digital economy also creates favorable conditions for multinational corporations to the distribute their income in the best manner in terms of tax obligations. According to Akiko Terada-

Hagiwara (2019), multinational corporations can avoid taxes in the following ways: (1) Avoiding local permanent establishment; (2) Minimizing the scope of operations and assets to reduce taxable income; And (3) exploiting the PRC's tax treaty network with developing countries that impose generally lower tax rates

*Secondly*, the tax base cannot be determined. Current international tax rules allow the source country to tax the nonresident's business profits only if its local presence constitutes a permanent establishment, whether it is a substantial physical presence or a dependent agent. However, in a digitalizing world, business can be conducted through a website in the market jurisdiction without any physical presence; even the website servers need not be set locally. Typical examples are online advertising and social network platforms. Furthermore, the digital transformation of business models also challenges the exception clause of permanent establishment rules. Activities traditionally considered as preparatory or auxiliary may become the core business model in the market country. In addition, with advancing digital technology, in-person services can be delivered online, allowing a business to avoid creating a permanent establishment in the market country. In summary, the current nexus rules capture only physical presence, with the "digital presence" out of reach, even when it is significant (Akiko Terada-Hagiwara, 2019).

*Thirdly*, do not clearly distinguish the type of income as a tax base. In general, the tax laws of all countries determine the tax rates and methods of taxation according to different types of income. According to Akiko Terada-Hagiwara (2019), the tax laws in general rely heavily on the categorization of income to determine the rate and means of taxation. With digitalization, it is difficult to clearly distinguish some types of income, especially among royalties, service fees, and business profits. A typical example is 3-D printing, where it is unclear whether the payment is for royalties, service fees, or business profits if the buyer is licensed to use the design and print the product locally. If the producer is a nonresident, the implication is more significant because international tax law does not allow the source country to tax business profits without a local permanent establishment. Other examples include payments for cloud computing services, rental of cloud space, and other technical services. The issue of income characterization is not limited to direct taxation; it also has implications for VAT. In the VAT system, the categorization of transactions and incomes determines the tax rate. Digitalization also challenges traditional tax practices with new business models. Typical examples are the sales of software, e-books, and 3D printing. In Vietnam, in recent years, there have been a controversy in determining business lines and fields as the basis for determining value-added taxable revenue. Typically, the determination of Grab's obligation to declare and pay value added tax was a problem. For a long time, competent state and tax authorities were confused in determining whether Grab is in the business of shipping passengers or providing a connection service between customers and taxi drivers to determine their value added tax obligations. Recently, the tax authorities have decided that Grab is in the business of transport passengers because Grab has full discretion to decide on the business method and the price of passenger transportation. However, Grab still recommends that Grab is not in the business of transport passengers, but only in the business of connecting customers and taxi drivers.

*Fourthly*, it is difficult to control business transactions to tax E-commerce business activities. With E-commerce business forms, business entities do not need a store, a traditional store,

the transactions are completely done by electronic methods, the server can be located abroad. Controlling transactions as a basis for determining arising transactions is very difficult. In addition, it is very difficult to control and require taxpayers to fulfill their tax obligations due to the diverse and abundant non-cash payment methods of the digital economy. Accordingly, the payment can be made via banks or not through banks but through other intermediary payment organizations. In Vietnam, the problem of controlling E-commerce business transactions becomes even more difficult when the COD (Cash on Delivery) is applied on E-commerce system more common than non-cash payment forms.

◆ *The need to reform tax administration in Vietnam*

From the above analysis, it is shown that a reform of tax administration is badly needed in the context of developing the digital economy in Vietnam. Main reasons are as follow:

*Firstly*, it is necessary to reform tax administration to take advantages the achievements of information technology and modern technologies in tax administration in order to improve tax administration efficiency.

*Secondly*, reform tax administration, especially the legal corridor on tax administration, to fill legal gaps in order to reduce the tax base erosion and prevent tax avoidance.

## **5. THE CURRENT LEGAL CORRIDOR ON TAX ADMINISTRATION IN TERMS OF MEETING THE REQUIREMENTS OF THE DEVELOPMENT OF THE DIGITAL ECONOMY**

### **5.1. Achievements and strongpoints**

The legal corridor on tax administration in the context of the digital economy has gradually been improved in Vietnam over the years. In 2017, Vietnam participated in the OECD's Forum on the Prevention of Tax Base Erosion and Profit Transfer. Especially, with the introduction of the Law on Tax Administration No. 38/2019/QH14, many important contents on tax management in the context of the digital economy have been established.

The important legal aspects of tax administration that have been revised and supplemented to suit the development of the digital economy in Vietnam will be discussed below.

- The Law on Tax Administration No. 38/2019/QH14, effective from 1 July 2020, has added regulations on the responsibilities of relevant state agencies in tax administration for E-commerce business activities (Including the responsibilities of the State Bank of Vietnam, the Ministry of Industry and Trade, the Ministry of Information and Communications etc.).

- The Law on Tax Administration No. 38/2019/QH14 has added one of the tax administration principles as applying modern information technology in tax administration (Article 5).

- The Law on Tax Administration No. 38/2019/QH14 has added article regulating specific contents of electronic transactions in the tax field (Article 8). At the same, under article 17, taxpayers doing business in localities where information and technology infrastructure available must declare, pay taxes, and transact with tax authorities via electronic means as stipulated by law.

- Under article 42 of the Law on Tax Administration No. 38/2019/QH14 stipulating on the principles of tax declaration and tax payment, for E-commerce, digital-based business and other

services performed by foreign suppliers without permanent establishments in Vietnam, the foreign suppliers are obliged to do or authorize Vietnamese organizations to do the registration, declaration and payment of tax in Vietnam according to regulations of the Ministry of Finance.

- In Circular No. 80/2021/TT-BTC by the Minister of Finance, there is a chapter (Chapter IX) with 9 articles stipulating the obligation of foreign suppliers without permanent establishments in Vietnam who conduct E-commerce and digital-based businesses on how to register, to declare and to pay taxes and related procedures to perform their tax liabilities in Vietnam.

- Under the Law on Tax Administration No. 38/2019/QH14, Decree 123/2020/ND-CP by the Government and Circular 78/2021/TT-BTC by the Minister of Finance, from July 1, 2022, taxpayers only use e-invoices, except those doing business in localities where information and technology infrastructure is not available (In this case, taxpayers use pre-printed invoices provided by tax authorities).

## 5.2. Weaknesses

Although the legal legislation on tax administration has been amended and supplemented to meet the requirements of taxation in the context of digital economy, there remains some legal gaps that lead to the losses of potential tax revenues as stated below.

*First*, the roadmap for transforming the tax legal system to adapt the new business conditions of the digital economy has not been determined (Nguyen Van Thuc, 2020).

*Second*, the law on value-added tax has not been revised to clearly to apply destination principle in the provision of cross-border digital services as a basis for value-added tax (Nguyen Van Thuc, 2020).

*Third*, the law on corporate income tax has not been amended to determine the permanent establishment suitable to the digital economy.

*Fourth*, the multilateral tax agreement has not been signed yet by Vietnam Government to address the challenges posed by the development of the digital economy as analyzed above.

*Fifth*, the current legal regulations on the responsibilities of organizations and individuals related to E-commerce activities of individuals selling goods through E-commerce trading floors have not fully grasped the principle of “deduction at source” in new context. As mentioned above, under Circular 100/2021/TT-BTC, in addition to the responsibility of providing information, the E-commerce trading floor is responsible for declaring tax on behalf of individuals under the authorizing mechanism of the civil law. With such provisions, if the individuals do not voluntarily authorize, the E-commerce trading floor is not required to declare and pay tax on behalf of the individuals. In order to attract individuals to transact on their E-commerce trading floor and reduce the workload, in cases where it is not compulsory, E-commerce trading floors often discourage individuals from authorizing them to declare and pay taxes on their behalf of individuals. Thus, with the current regulations, in fact, only the responsibility of providing information has been done. No authorizing of tax declaration and payment has been done so far.

*Sixth*, it is lack of specific provisions in legal documents on the type of information provided, methods and deadline for providing information where the E-commerce trading floor fails to declare and pay tax on behalf of the individual.

*Seven*, it is also lack of legal regulations on the responsibility of the owners of social networks in providing information on advertising activities for the purpose of selling goods of individuals on social networks.

## **6. SUGGESTIONS ON THE ORIENTATIONS TO IMPROVE THE LEGISLATION ON TAX ADMINISTRATION IN VIETNAM IN THE CONTEXT OF THE DEVELOPMENT OF DIGITAL ECONOMY**

*First*, a roadmap for transforming the tax legal system to adapt the new business conditions of the digital economy should be soon determined.

*Second*, it is necessary to review to amend and supplement legal legislation on Vietnam's economic sub-sectors in line with changes of the digital economy. In particular, it is necessary to redefine criteria to distinguish business fields and business lines and classify products and services associated with the digital economy, especially some fields related to technical services on internet, digital business and the sharing economy. The legal legislation on this issue's improvement allows to clearly define the type of goods, services and business sectors as the basis for determining tax obligations in the digital economy.

*Third*, there is a need to comprehensively review for amending and supplementing the legal provisions related to the control and management of E-commerce business activities in general and tax administration on commercial business activities in particular to ensure the right to control and access information by state agencies with entities who provide digital payment and transaction services including the organizations in foreign countries.

*Fourth*, the Vietnam government should negotiate with foreign tax authorities to amend and supplement tax agreements on the avoidance of double taxation and the prevention of tax evasion between Vietnam and other countries as soon as possible. These agreements need to be supplemented the methods of coordination on tax administration for cross-border E-commerce business activities and other unfavorable terms for Vietnam in tax administration. In particular, it is urgent to negotiate and sign the multilateral tax agreement as recommended by the OECD in the Action Programs on the Prevention of Tax Base Erosion and Profit Transfer with an emphasis on the amendment of the provisions on permanent establishments in the context of the digital economy.

*Fifth*, it is necessary to stipulate the responsibilities of E-commerce trading floors in withholding and paying tax on behalf of an individuals who conduct sale in E-commerce trading floors in a certain cases. The tax legislation on tax should be supplemented on two cases where E-commerce trading floors must declare, deduct at source and pay taxes on behalf of individuals: (1) The E-commerce trading floors provide intermediary payment services; (2) the E-commerce trading floors negotiate with individuals on online ordering and E-commerce trading floors participate in operating and controlling the delivery and payment activities of buying and selling transactions.

In the first case, the E-commerce trading floors who act as organizations providing payment services must deduct tax at source. This responsibility is similar to that of commercial banks

and other payment intermediaries and the real condition is favorable for them to carry out this responsibility.

In the second case, the practical conditions also allow the E-commerce trading floors to fulfill this responsibility because the E-commerce trading floors control the payment cash flow from the buyers to the sellers. According to our survey, for E-commerce trading floors (such as Shopee, Tiki, Hotdeal etc.), customers ordering online can choose to pay through bank account or in cash. In the case the payment made through banks, after no complaints from the customer on the product or the customer does not give back the goods and the payment is made, the E-commerce trading floors will transfer the money to the seller. In the case of cash payment, after the customer accepts the goods and pays cash to the carrier, the carrier pays the E-commerce trading floor, then the E-commerce trading floor pays the seller. Thus, if the E-commerce trading floor is considered as a market, the market management board of this market is very different from the management board of the traditional market. In addition to renting a place to sell and collecting fees, the owner of this market also provides many other services related to the process of buying and selling goods. By participating in some important stages of the buying and selling process as analyzed above, the owner of an E-commerce trading floor has absolutely practical conditions to deduct taxes at source. Up to now, over the world more than 40 tax authorities have stipulated that the E-commerce trading floors must deduct at source and pay taxes on behalf of individuals if the E-commerce trading floor provides payment services or is directly involved in the delivery of goods.

*Sixth*, the Vietnam government should supplement the Decree on detailing the Law on Tax Administration with some issues related to the responsibilities on information provision. Those information includes the type of information provided, the method and deadline for providing information of an individuals that the E-commerce trading floors have to provide. At the same time, it is clearly defined the responsibility of information security of relevant organizations and individuals both to prevent tax losses and to ensure the legitimate benefit of individuals who conduct online business.

*Seven*, it is necessary to supplement the law on information and communication about the responsibility of the social networks' owners in providing information about advertising activities for personal business purposes on social networks. This is the basis for tax authorities and competent state agencies to use information technology and other modern technologies to perform tax administration in accordance with the law.

## **7. LIMITATIONS AND FURTHER RESEARCH**

For the limit of time and other conditions, this research does not have survey data on the tax losses due to legal gaps in tax administration in the context of the digital economy. A complete and systematic statistics on tax revenues from E-commerce activities in Vietnam has also been not collected. An econometric model has not been used to analyze the correlation between the improvement of the legal corridor and the effectiveness of tax administration. These should be next fields of research for us and other researchers./.

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# THE EFFECT OF GOVERNMENT EXPENDITURE ON THE PERFORMANCE OF SMES IN VIETNAM

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**Abstract:** *Government spending has a certain role in the development of SMEs in Viet Nam. The research is conducted with the purpose of analyse the effect of government expenditure on the performance of SMEs. The author uses the panel data regression method for 5486 SMEs in different localities in Viet Nam. The results have shown that the development capital expenditure has positive effect, and the recurrent expenditure has negative one. Some explanations have been discussed for the above results. After that, the study gives some suitable proposals relating to restructure, control the expenditure from budget for the local government of provinces and cities*

**Keywords:** *Government expenditure, SMEs, Recurrent expenditure, Capital expenditure*

## 1. INTRODUCTION

Small and medium enterprises (SMEs) in Vietnam in recent years have increasingly affirmed their role in the economy. Not only contributing to increasing the total output value of the economy, SMEs also make important contributions to the state budget, create jobs and carry out economic restructuring in a reasonable direction. Data published by the Ministry of Planning and Investment shows that in the period 2012-2018, on average, SMEs accounted for 97% of the number of businesses in Vietnam. To encourage the development of businesses in this area, the Government has implemented various policies to support businesses. One of the important policies is government spending policy.

Government expenditure in Vietnam mainly includes recurrent expenditure and development capital expenditure. Recurring expenditures associated with the performance of state duties for legislative, executive, and private activities, public services, and economic non-business activities such as education, health care, and society.... Thus, recurrent expenditures have an impact on the business sector, but the level of impact is not much, especially for SMEs. Meanwhile, expenditure on development investment is used for infrastructure, socio-economic development, production development and the state's reserve of materials and goods in order to achieve the goal of stabilizing macro growth and promoting socioeconomic development. The investment in the construction of socio-economic infrastructure works helps create a development environment for businesses in general and SMEs in particular.

Thus, it can be seen that government spending has a certain role in the development of SMEs. The study was conducted to analyse the impact of recurrent expenditure and development investment expenditure on the activities of SMEs in Vietnam.

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The 2002 State Budget Law strongly decentralized between the Central Budget and the local budget on the principle that the central budget keeps important revenue sources and undertakes major expenditures. Over the years, with the increasing revenue, local budgets have been able to expand their autonomy to exploit revenue sources and arrange reasonable expenditures in the locality. Localities develop their own spending plans in accordance with their own conditions, characteristics, and development strategies. Therefore, in order to study the influence of government spending on the activities of SMEs, the study focuses on analysing the effects of recurrent expenditures and investment expenditures at localities.

## 2. LITERATURE REVIEW

A range of research relating to the impact of government expenditure on SMEs is done in different countries.

In Indonesia, micro, small and medium-sized enterprises are seen as an important sector for the growth of the economy, through job creation and diversification of domestic manufacturing industries. The government's policies on investment and spending have many orientations to promote the development of these businesses, thereby helping to accelerate economic growth. P.Eko Prasetyo (2020) conducts a study to analyze both theoretically and empirically the role of government in the growth of SMEs in Indonesia. The author uses quarterly secondary data from 2009 to 2019 (after the 2008 global financial crisis) and the OLS least squares regression model. The results show that government spending has a positive and important contribution to the growth of SMEs, but does not have much impact on micro enterprises. Meanwhile, government investment has a positive and significant effect on businesses of all sizes.

Claudiu Cicea, can Popa, Corina Marinescu, Simona Catalina Stefan (2019) research on the influence of economic and social factors on the short and long-term performance of SMEs in a number of countries from European Union. In which, government spending belongs to the group of economic factors besides the absorptive capacity of enterprises, the inflation rate and the economic growth rate. Enterprise performance is measured through the added value of the business. The results show that in developed countries, government spending has a positive effect on business performance through national subsidy and support programs.

Gbande, Cephass, Udoh, Francis Sylvanus (2018) study the effect of fiscal policy on the growth of SMEs in Nigeria between 1999 and 2016. The study uses error correction method ECM to long-term relationship analysis of time series data. The results show that the tax rate has little effect on the growth of SMEs in Nigeria, but government spending does have a large impact. Therefore, the author recommends that the government consider tax-related variables to facilitate SMEs to cope with fluctuations in the market. And the government should also keep spending on infrastructure development, which will create a synergistic effect on the growth of SMEs and thus will boost the growth of the whole economy.

In Viet Nam, there have been also several research relating to the government spending and the activity of SMEs.

Dao Thi Bich Thuy (2014) analyses the impact of government consumption expenditure

in the period 1990-2012 in 5 ASEAN countries including Indonesia, Malaysia, Philippines, Thailand and Vietnam. Regression analysis based on economic growth model Ram (1986) shows that government spending through the purchase of goods and services has a significant positive externality on private sector output. However, the negative impact is reflected in the decrease in investment. As government consumer spending increases, so does the government has to raise tax rate. An increase in taxes will lead to a decrease in after-tax income and thus a decrease in saving, leading to a decrease in investment. This is precisely the crowding out effect of government spending on private investment.

Tran Quang Tuyen, Vu Van Huong (2018) assesses the impact of government support on the improvement activities of Vietnam's SMEs. The study uses a set of array data for the period 2007-2015, showing that government support has a positive effect on innovation, product innovation and technology application of enterprises. The author also shows that government support has a positive effect on existing innovation, product innovation and process innovation capabilities for formal enterprises. This result implies that the government has invested significantly in supporting innovation, but for these policies to be truly effective, it needs to be accompanied by other policies and mechanisms to promote business. The small and medium-sized private sector has transformed from informal to formal.

Vo Thanh Hai (2019) examines the impact of financial support policies on the growth of SMEs in Ho Chi Minh City. The study uses PSM Trend Score Connect, DID Double Difference and DID Double Difference technique combined with PSM Trend Score Connect to measure the impact of financial support policy on revenue growth and growth, productivity growth of SMEs. Using the small and medium enterprise survey data set of 457 enterprises participating in 2015 and 356 enterprises participating in both 2013 and 2015, the research has not found a positive impact of the policy on the business revenue and productivity growth.

Pham Thanh Dat's study (2021) was conducted to assess the impact of support policies on SMEs in Ho Chi Minh City, using a survey data set on the characteristics of the business environment of SMEs in Vietnam in 2015. In which the data of SMEs in Ho Chi Minh City was extracted to use for the research model. By using quantitative research method using multiple regression model estimated by OLS method, the study shows that financial support policies, technical assistance and other supportive policies all have a positive impact on the performance of SMEs in Ho Chi Minh City. Thereby, the study proposes policy implications to improve the performance of SMEs in Ho Chi Minh City.

Thus, the studies in Vietnam have only analysed general government spending policies integrated in other criteria. To date, there has been no independent study analysing the impact of each expenditure at the local level on the performance of SMEs. This is the gap to be made in this study.

### **3. RESEARCH MODEL**

#### *Research method*

The study was carried out with a sample of SMEs in provinces and cities across the country in the period 2012-2018. With this data, the study implements panel data regression method. Selecting the appropriate model between the fixed-effects regression model FEM and the random-effects regression model REM is conducted through Hausman test.

***Selection of research variables in the model***

Based on the previous researches, it's obvious that the government's spending has both direct and indirect influences on the SMEs' performance. The author, therefore, builds a research model with dependent variables is the result of SMEs' performance and the independent is the government's expenditure as below:

Dependent variable: The variable reflecting the performance of SMEs selected by the author is the profit after tax of enterprises (Profit). The data on profits of enterprises is calculated by the author based on the Business investigation of GSO. The sample consists of 5486 enterprises for the period 2012-2018. Unit is million VND.

Independent variable: The two independent variables selected here are recurrent expenditure (REEX) and development capital expenditure (CAEX) of the localities.

The data used are recurrent expenditures and development investment expenditures of localities taken from the local budget settlement in the period 2012-2018. The unit of expenditure on development investment and recurrent expenditure is million VND.

***Research hypothesis***

**Hypothesis 1: Recurring expenditure has a positive effect on the profitability of SMEs.**

**Hypothesis 2: Development investment spending has a positive effect on the profitability of SMEs.**

***Proposed model***

$$Profit_{it} = \beta_1 + \beta_2 CAEX_{it} + \beta_3 REEX_{it} + u_{it}$$

*In which:*

$$t = 1,2,\dots,7, \quad i = 1,2,3,\dots,5486$$

***Descriptive statistics of the variables in the model***

The characteristics of the research variables are shown in the table below.

**Table 1: Descriptive statistics of research variables in the model**

Variable	Obs	Mean	Std. Dev.	Min	Max
Profit	38,402	31040.88	599641.9	0	5.94e+07
CAEX	38,402	1.16e+07	1.08e+07	306743	3.23e+07
REEX	38,402	1.62e+07	1.27e+07	2028522	4.64e+07

Source: Author's performance from Stata

Through the data, it can be seen that the average profit of enterprises is nearly 31 billion VND.

***Correlation between the variables in the model***

**Table 2: Correlation matrix between variables in the research model**

	Profit	CAEX	REEX
Profit	1.0000		
CAEX	0.0079	1.0000	
REEX	0.0051	0.9569	1.0000

Source: Author's performance from Stata

The correlation relationship between the variables in the model helps to predict the direction of impact between the expenditure variables and the performance of SMEs.

It can be seen that the factors of development investment and recurrent expenditure have a positive relationship with profit after tax. This is completely consistent with the theory that when localities increase spending on development investment, recurrent spending will promote the development of businesses, helping businesses have favourable infrastructure and environment. for production and business

#### *Estimating and testing the model*

The topic estimates REM and FEM models. Hausman test is used to select the appropriate model. Hausman test results in the model of budget expenditure policy affecting the performance of SMEs are shown as below:

**Table 3: Hausman test in the model of the influence of expenditures on the profit after tax of SMEs in Vietnam**

	Coefficients			
	(b) fem	(B) rem	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
CAEX	.000486	-.0000788	.0005648	.0002817
REEX	.0017268	.0014578	.000269	.0000919

b = consistent under Ho and Ha; obtained from xtreg  
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(2) = (b-B)'[(V\_b-V\_B)^(-1)](b-B)  
= 15.23  
Prob>chi2 = 0.0005

Source: Author's performance from Stata

Hausman test shows that the FEM model is a better fit

The variance test results show that spending policy models affecting the performance of SMEs in Vietnam have variable variance.

**Table 4: Testing the variance of changes in the expenditure model on the profit after tax of SMEs in Vietnam**

Modified Wald test for groupwise heteroskedasticity  
in fixed effect regression model

H0:  $\sigma(i)^2 = \sigma^2$  for all i

chi2 (5486) = 3.8e+13  
Prob>chi2 = 0.0000

*Source: Author's performance from Stata*

The Breusch-Godfrey test of autocorrelation gives the model results that the autocorrelation phenomenon is present

**Table 5: Autocorrelation test in expenditure model affecting profit after tax of SMEs in Vietnam**

Wooldridge test for autocorrelation in panel data

H0: no first-order autocorrelation

F( 1, 5485) = 32.917  
Prob > F = 0.0000

*Source: Author's performance from Stata*

To overcome the phenomenon of variable variance, the results of the regression model adjustment of the influence of spending policy on the performance of SMEs in Vietnam are presented in the table below:

**Table 6: Regression model adjusting for fixed effects of expenditures on profit after tax of SMEs in Vietnam**

Cross-sectional time-series FGLS regression

Coefficients: generalized least squares  
Panels: heteroskedastic  
Correlation: no autocorrelation

Estimated covariances	=	5486	Number of obs	=	38,402
Estimated autocorrelations	=	0	Number of groups	=	5,486
Estimated coefficients	=	3	Time periods	=	7
			Wald chi2(2)	=	648.61
			Prob > chi2	=	0.0000

Profit	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
CAEX	.0004461	.0000447	9.99	0.000	.0003586	.0005337
REEX	-.0001007	.000038	-2.65	0.008	-.0001752	-.0000261
_cons	7590.608	217.8896	34.84	0.000	7163.552	8017.663

*Source: Author's performance from Stata*

Regression results after adjusting show that: At the 5% level of significance, development investment spending has a positive impact on the profit after tax of enterprises. Meanwhile,

recurrent expenditure has a negative effect. This result can be explained because the investment and development expenditures of the localities initially created the infrastructure for SMEs to operate in production and business. On the other hand, recurrent expenditures are not effective for businesses in this area. The reason may be that recurrent expenditures are not really effective, still causing administrative and legal difficulties for businesses. This result can be explained by the research of Dao Thi Bich Thuy (2014), the recurrent government spending is financed by domestic revenues, of which taxes account for the majority. Therefore, the increase of this expenditure leads to higher taxes which negatively affects businesses especially the SMEs. In addition, regular expenditures can be used to pay wages for laborers working for the state sector, making a part of people with good skills tend to move into the state sector, affecting the activities of SMEs. Another possible explanation is that recurrent expenditures crowd out SMEs in providing services in the economy

However, the impact of both these expenditures is very small, while the impact of other factors on the profitability of the business is much larger. In term of capital expenditure, the loss in the disbursement process of development investment expenses causes an increase in expenditures, but the quantity and quality of infrastructure remains low. This shows that policies have not really benefited SMEs.

#### **4. SOME PROPOSALS**

In the coming year, SMEs will increasingly play more important role in the economy. In addition to other direct supports from government, the indirect support like government expenditure must also be considered thoroughly. Therefore, the author gives some proposals as follows:

Firstly, for the budget expenditure structure, it is important to control the expenditure scale within the resource capacity of the economy, in accordance with the level of development and integration of the country. Urgently restructure budget spending in a comprehensive way, between investment expenditures, recurrent expenditures, between sectors and fields, between budget levels and within sectors and fields.

Secondly, along with the above proposal, it is necessary to improve the efficiency and effectiveness of budget allocation and use, the efficiency of public spending, especially the efficiency of public investment spending, prioritizing the handling of inadequacies in public investment capital management. The government also has to overcome the problems of spreading, slow, unplanned disbursement, prolonged source transfer, and focus on the priority goals of the economy. It is also important to strengthen the enforcement of public investment laws; develop a capital payment control management system to ensure resource allocation and disbursement according to the project's technical progress.

Thirdly, restructuring state budget spending will involve the benefits of all sectors of the economy. In the expenditure structure, it is necessary to calculate and comprehensively evaluate the difficulties of enterprises in general as well as the SME sector in particular. The local government should determine the priority level for SMEs based on the contribution and development potential of this area to the locality. From there, it can clarify appropriate spending items to ensure the creation of complete infrastructure and promote the development of businesses in this area.

Finally, the local government should focus budgets on essential tasks; encourage other economic sectors to invest capital to perform socio-economic infrastructure development tasks; provide public non-business services capable of socialization, create a healthy and equal competitive environment in the provision of public services among units and organizations of different economic sectors, in accessing state budget funds for public non-business service development.

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# EFFECTS OF FDI LINKAGES ON DOMESTIC FIRMS' TECHNOLOGICAL PROGRESS: THE ROLE OF LOCAL BUSINESS ENVIRONMENT

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**Abstract:** *This study aims at examining the impact of FDI linkages on the technological advancement of domestic enterprises. Using the panel data of 5984 manufacturing firms in Vietnam over the period from 2012 to 2018, the study finds that FDI linkages positively impact the technological progress of local firms. Additionally, a high-quality local business environment plays a crucial role in enhancing this positive effect of FDI linkages. A favorable institutional framework also eliminates the weakness of small and medium firms and enhances the efficiency of capital-intensive industries in taking advantage of FDI technological spillovers. The results provide important implications to support domestic firms' technological advancement by encouraging the linkages with foreign-invested firms and improving the local business environment in developing countries.*

**Keywords:** *FDI linkages, business environment, technological advancement, Vietnam.*

## 1. INTRODUCTION

Technology is an essential instrument for firms to improve their performance and competitiveness. While firms in rich countries mainly develop new technology through innovation, most firms in developing economies acquire technological progress via imports or technology transfer from foreign-invested partners (Ming & Xing, 1999). In the context of globalization and international integration, selling to FDI customers or buying inputs from FDI partners are considered an efficient channel for the technological upgrade of local firms in developing markets (Bučar et al., 2009).

There is a consensus in the literature that supports a hypothesis on the positive relationship between the FDI inflows and the performance of domestic firms (Blalock & Gertler, 2008; Javorcik, 2004; Song & Son, 2020; Havranek & Irsova, 2011). Extant studies use different proxies for technological progress and reveal different evidence on the impact of FDI on firm technology. Some reveal that FDI inflows positively impact firms' technological advancement (Liu & Wang, 2003; Zhao & Zhang, 2010), while Suyanto & Salim (2010) suggest that FDI impacts differently on different sectors. However, current literature mainly uses the spillover approach and examines the effects of forward FDI inflows on domestic firms. Therefore, they fail to provide the impact of direct linkages with FDI firms on domestic partners, which may have more implications for the public sector in attracting the policies of FDI attraction.

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Several studies have also examined the link between institutional environment and firm technological progress. Firms operating in a favorable business environment may benefit from the reduction of transaction costs which may encourage firms to be involved in innovative activities and boost the efficiency of firm innovative activities (Krammer, 2009; Gogokhia & Berulave, 2020). A well-developed institutional framework also attracts high-quality FDI inflows of high-tech multinationals, which increase the possibility of linkages between foreign and local partners and generate high chances of technology transfer to local firms. (Peng et al., 2008; Zhang, 2019).

The number of existing studies that link these two strands of research on the effect of both FDI linkages and business environment on firm technology is limited. None of them consider the role of local business environment in firm-level technological progress via FDI linkages. A few studies (Zhang, 2019; Xiao & Park, 2018; Smeets & de Vaal, 2016) use different proxies for institutions to highlight the moderating effects of local business environment on strengthening the impact of FDI inflows on domestic firms' performance. Nevertheless, previous studies focus on the impact on local firms' productivity, and none of them have pointed out the insights for the changes in productivity via FDI linkages, whether it is because of the impact on technological progress. Additionally, none of these studies employ firm-level data on the linkages between foreign-invested and domestic firms (Zhang, 2019).

In the case of Vietnam, it is particularly important to analyze the role of business environment in determining the impact of FDI firms on their local partner. Vietnam is viewed as a highly decentralized country by both Asian and global standards (Romeo, 2015), which leads to the variation in the quality of business environment among provinces. Local administrations in Vietnam have substantial power in making decisions and boosting economic development (Romeo, 2015). The competition in improving business environment at the sub-national level also generates differences in the efficiency of FDI attraction policy. Although there have been rising flows of FDI into Vietnam, FDI sector exists as a separate part of the economy with modest linkages to the domestic sector (Le, 2018; Tong et al., 2019). The issues of how to link local firms into FDI firm operations and improve the efficiency of those linkages have recently given special concerns from the Vietnam government. The question of whether the improvement of local business environment facilitates the positive impact of FDI linkages on local firms' technological advancement should be examined to provide empirical evidence and guidance for further institutional reforms in Vietnam in order to encourage positive spillovers from FDI to local sectors. Furthermore, the development of SMEs has been one of the priorities of Vietnam government due to their dominance in the economy, but SMEs seem to face more burdens compared to other sectors (Le, 2018). Therefore, the examination of how the local business environment matters in linkages with FDI partners of SMEs may be meaningful to the public sector to have suitable policies for encouraging the positive impact of FDI linkages on SMEs.

Our study aims to examine whether a favorable local business environment facilitates the positive impact of FDI linkages on the technological progress of domestic firms in the transition economy of Vietnam. Additionally, we study whether there are differences among firms of different sizes and industries. To conduct this study, we combine the longitudinal data set collected from annual surveys of manufacturing enterprises and the data set on the quality of local business

environment in Vietnam from 2012 to 2018. The final data includes the information on linkages between the FDI and local firms, firm performances, and the quality of local business environment in 63 provinces of Vietnam.

The results indicate that FDI linkages positively impact the technological advancement of local firms, and these positive effects are enhanced in an improved business environment. Moreover, a favorable business environment also eliminates the capability gap between SMEs and large firms in absorbing technological spillovers from FDI partners. Additionally, capital-intensive firms in a better business environment are also more capable of upgrading their technology than those in a less favorable environment.

The remainder of the paper is structured as follows: Section 2 reviews the literature on the relationship between FDI linkages, firms' technological advancement, and business environment; Section 3 presents the methodology and data; The results are revealed in Section 4; Section 5 gives conclusions of the paper.

## **2. LITERATURE REVIEW**

### **2.1. FDI linkages and firm technological progress**

The previous studies have emphasized the role of FDI firms in improving the performance of domestic firms in the host countries (Javorcik, 2004; Blalock & Gertler, 2008; Song & Son, 2020; Li & Tanna, 2018, Suyanto & Sugiarti, 2019). FDI is viewed as a crucial route for the transfer of high technology from industrialized to developing countries (Isaksson, 2007). The entrance of FDI firms into the host countries is not simply the inflow of physical capital into the countries, but it is also a channel for technology transfer (Liu & Wang, 2003). To compete with local competitors, foreign firms have to bring their advanced technology as their competitive advantages into the new markets. From the local firms' side, the presence of multinational enterprises forces them to be more efficient in using existing technology and resources, as well as upgrade their technology to maintain their market share or to do business with FDI partners (Blostrom & Kokko, 1998; Liu & Wang, 2003).

The impact of FDI firms on local firms' technology in upstream and downstream sectors along their value chains may be more pronounced than local competitors in the same sector. Unlike domestic competitors, foreign firms may have less incentive to prevent technology diffusion to their local partners because they can also benefit from the improvement of local partners (Javorcik, 2004). As a result, local partners will have more chances to learn and upgrade their technology transferred directly from their foreign customers or suppliers (Javorcik, 2004; Ni et al., 2017).

Even though the relationship between FDI firms and domestic enterprises' performance has been extensively analyzed, most empirical studies focus on the impact on productivity (Javorcik 2004; Blalock & Gertler, 2008; Song & Son, 2020; Li & Tanna, 2018, Suyanto & Sugiarti, 2019; Newman, et al., 2017; Havranekand & Irsove, 2011), there is still limited understanding on the mechanism of productivity gains. Therefore, examining the relationship between FDI linkages and technology improvement of domestic firms can give insights into the source of firm productivity gain via FDI linkages.

Liu & Wang (2003) use total factor productivity (TFP) as a proxy for the technological progress of domestic firms and conclude that FDI inflows have a positive impact on the technology advancement

of Chinese firms. However, TFP captures not only technological advancement, but also other elements such as institutions (Acemoglu et al., 2007), financial markets (Alfaro et al., 2006; Aghio et al., 2006), endowments (Caseli & Coleman, 2006), or policies (Holmes & Schmitz, 2001). Thus, the usage of TFP may not be a good measurement of technological progress. Suyanto & Salim (2010) decompose TFP growth into efficiency change and technological change using the Malmquist productivity index and find out that FDI has negative spillovers on technological change in the food-processing industry and a positive impact on technological advancement in the electrical machinery sector in Indonesia. Similarly, Zhao & Zhang (2010) follow the same approach of Malmquist productivity index in calculating technological progress from TFP decomposition and conclude that FDI has a positive impact on technical change in the Chinese high-technology industries. Nonetheless, Grifell-Tatjé & Lovell (1995) point out that the Malmquist method is not accurate in the cases of non-constant returns to scale. Therefore, we should find another measurement for firm technological progress at the firm-level to reflect directly the advancement of technology within firms.

Like research on other cases, most studies on Vietnam have examined the relationship between FDI linkages and local firm productivity (Ni et al., 2017; Nguyen, 2008; Nguyen et al., 2020; Anwar & Nguyen, 2014; Huynh et al., 2021). Therefore, it is worth finding out why FDI linkages cause changes in local firm productivity, whether it is due to the technological advancement of local firms when linking with FDI partners. Answering this question may help understand the mechanism of FDI technological spillovers on domestic firms.

## **2.2. Technological progress and FDI linkages: The role of local business environment**

Extant studies have confirmed that a favorable business environment is essential for firm technology upgrades via innovation or technology transfer. Proper institutional regulations are likely to encourage firms to acquire new technology through innovative activities. A well-developed institutional framework can lessen transaction costs, thus facilitating firm engagement in innovation activities (OECD, 2004). Additionally, an improved business environment also has a positive impact on the innovative outputs of firms (Krammer, 2009; Gogokhia & Berulave, 2020).

In consideration of global integration, a high-quality institution can exaggerate the technological spillovers from FDI firms to their local partners. Institutions are not only “background” conditions for firm operation. They are also an endogenous element of firm performance by shaping their behaviors in these economies (Peng, 2003; Xiao & Park, 2018). A favorable business environment can easily attract high-tech FDI firms, which may increase the probability of technological spillover effect to domestic firms (Zhang, 2019). Moreover, the lower transaction and transformation costs in a high-quality institutional environment may encourage partnership between foreign and domestic enterprises (Peng et al., 2008; Zhang, 2019). As a result, firms in the host countries may have more chances to approach cutting-edge technologies from multinational partners. A favorable institutional environment enables local firms to adopt new ideas, technologies, and business models (OECD, 1996, 2015). Isaksson (2007) argues that good institution supports capital formation and provide incentives for domestic enterprises to acquire foreign technologies.

The role of local business environment has been considered in the relationship between FDI linkages and firm performance with conflicting evidence, mostly focusing on the impact on

domestic firm productivity. While some studies reveal a significantly positive moderating role of favorable business environment on the spillovers from foreign-invested firms to domestic firm productivity (Zhang, 2019; Xiao & Park, 2018; Smeets & de Vaal, 2016); others find insignificant evidence of such moderating effect (Gorodnichenko et al., 2014).

However, due to the limited information on the direct relations between domestic and foreign firms, the previous studies have not provided any analysis on the spillover mechanism at the firm level (Zhang, 2019). Moreover, the productivity gain of domestic firms when doing business with FDI firms can come from various reasons, and technology advancement is one of them. Therefore, it is worth examining whether FDI linkages have a causal relationship with technology upgrades of local firms. In addition, due to the crucial role of technology, this relationship is needed to be considered in different business environments to have proper policies for encouraging technology of local enterprises in the developing world.

The transition economy of Vietnam provides an ideal empirical context to test the role of local business environment on the relationship between FDI linkages and technological advancement of domestic firms. During the last three decades, inward FDI inflows have been played an important role in promoting economic growth of the country (MPI, 2018; Vuong & Nguyen, 2020). The FDI attracting policies aim at promoting technology advancement of domestic firms through linkages with foreign partners. Therefore, the government has implemented a variety of measures to facilitate these linkages (Tong et al., 2019).

Additionally, institutional reforms have been a priority of the Vietnam government for the last two decades at both national and provincial levels (Tran, 2019). The decentralization of institutional policies leads to competition among provinces in creating favorable business environments to attract FDI. The variation of business environment quality among provinces may allow us to study the impact of business environment on the firm relationship.

Although the relationship between FDI linkages and Vietnam firms' productivity has been analyzed in several studies, a few of them consider the role of business environment in this relation. Anwar & Nguyen (2014) are among the few who point out that FDI linkages impact differently domestic firms in eight regions of Vietnam. The study, however, failed to explain the reasons for these variations.

### 3. METHODOLOGY AND DATA DESCRIPTION

#### 3.1. Methodology

We follow the approach adopted by Liu et al. (2001) to examine the effect of FDI linkages on firm performance. Firm performance in technological progress is affected by firm characteristics, industry characteristics, local business environment, and linkages with foreign firms. We also insert the interaction term between FDI linkages and local business environment to investigate how the impact of FDI linkages on firms' technological advancement varies under different business environment conditions. Our estimation model is specified as follows:

$$TP_{ijt} = \beta_0 + \beta_1 FDI\_linkage_{ijt-1} + \beta_2 LBE_t + \beta_3 LBE_t * FDI\_linkage_{ijt-1} + \beta_4 X'_{ijt} + \lambda_t + \mu_i + \varepsilon_{ijt} \quad (1)$$

where  $TP_{ijt}$  is the proxy for technological progress of firm  $i$  in industry  $j$  at year  $t$ ;  $FDI\_linkage_{ijt-1}$  is a binary variable for FDI linkage status of domestic firm  $i$  in industry  $j$  at time  $t - 1$ ;

$LBE_{it}$  is a variable for the quality of the local business environment;

$X_{ijt}$  is a vector of control variables for firms' characteristics, including firm size, firm age, ownership, and industry;

$\lambda_t$  is included to control for the year fixed effect, which is a set of year dummies;

$\mu_i$  is the firm fixed effect, which captures the firm time-invariant specific characteristics;

and  $\varepsilon_{ijt}$  is the error term.

The variable of technological progress is a binary, which equals one if a firm is either upgrading their manufacturing technology or telecommunication in the survey year, and equals 0 otherwise. The usages of this proxy for technological progress may capture more precisely and directly the annual changes in technology of firms.

$FDI\_linkage_{ijt-1}$  is a binary variable, which equals one if a firm is either the customer or supplier of FDI firms and equals 0 otherwise. We lag the value of FDI linkage by one year to reduce the possible endogeneity problem caused by reverse causality or omitted variables (Zhang, 2019; Baum, 2006). The use of lagged FDI linkage variable also implies that domestic firms may need time to adjust their technology after doing business with FDI partners. We expect that firms having linkages with foreign-invested enterprises are more likely to upgrade their technology than others.

Following Vo et al. (2020), Vu & Hoang (2021), and Vu & Nguyen (2021), we use the provincial competitiveness index (PCI) as a measurement for the quality of local business environment. This composite index, which is calculated from ten subindices, covers various issues relating to doing business in 63 provinces of Vietnam. The PCI is considered the best available measurement of Vietnam's local business environment for two reasons. Firstly, it covers various emerging issues related to doing business in a developing country like Vietnam. Secondly, a large number of about 11,000 firms across the country participate in the PCI survey each year, making it a representative of the voice of local firms. We use both PCI score and PCI ranking to examine the role of local business environment in the impact of FDI linkage.

Other independent variables of the model include firm size, firm age, type of ownership, industry dummies, year dummies. Firm size is measured by the natural logarithm of the total number of full-time employees. Firm age is calculated by the number of years that a firm has been operating (Monreal et al., 2012; Calza et al., 2019). Industry characteristics that may influence firms' technology advancement are captured by industry dummies. Based on the argument of Le (2018) that state-owned enterprises in Vietnam have more privileges and resources, they may outperform privately owned firms, we control for the ownership type to capture the difference in technological advancement between the two groups of firms. The ownership variable is binary, which equals one if a firm is state-owned and 0 otherwise.

The description of these variables is summarized in Table 1.

We follow Brancati (2017) in dealing with the probit model and use the random effect augmented with Mundlak-type controls to combine the advantages of both fixed effect and random effect model. The random probit model alone cannot eliminate the endogeneity problem caused by

fixed-effect characteristics of firms, while combining the probit model with fixed effect may lead to bias in the regression results (Wooldridge, 2010). The addition of time average of each regressor (i.e., Mundlak-type controls) to the random probit models may be a solution to solve this problem.

**Table 1: Summary on the measurement of variables**

Variables	Description	Data source
$T_{Pij,t}$	Technological progress of firm that takes the value of 1 if a firm upgrades their technology in the current year, and 0 otherwise	Annual Enterprise Survey by GSO
$FDI\_linkage_{ijt-1}$	Dummy variable that takes the value of 1 if a firm sold their products to or bought inputs from FDI firms in the previous year, and 0 otherwise	Vietnam Technology and Competitiveness Survey by GSO
$LBE_t$	The quality of local business environment, measured by Provincial competitiveness index	PCI database by VCCI and USAID
$\ln employee_t$	Natural logarithm of total number of workers	Annual Enterprise Survey by GSO
$Age_t$	The number of years that firms have been operating	Annual Enterprise Survey by GSO
$SOE_t$	Dummy variable that takes the value of 1 if a firm is a state-owned one, and 0 otherwise	Annual Enterprise Survey by GSO

### 3.2. Data description

The information on firm characteristics is withdrawn from the Vietnam Annual Enterprise Surveys by the General Statistics Office of Vietnam (GSO) from 2012 to 2018. The Vietnam Technology and Competitiveness Surveys, which is also from GSO, provide information on the linkages of firms with foreign-invested enterprises and firm technology advancement. Two datasets are merged by tax codes of firms, thus generating a complete dataset on firm characteristics and technology situations and the business environment quality of all provinces in Vietnam.

Data for the quality of the local business environment are obtained from the Provincial Competitiveness Index (PCI) surveys. PCI surveys were annually conducted in 63 provinces in Vietnam by the Vietnam Competitiveness Initiative (VNCI) and the Vietnam Chamber of Commerce and Industry (VCCI). The PCI composite index consists of ten subindices, including entry cost, land access, transparency, time costs of regulatory compliance, informal charges, proactivity of provincial leadership, policy bias, business support services, labor training, and legal institutions. The higher composite PCI index means a higher-quality local business environment. The quality of local business environment is also classified into 4 tiers based on the value of PCI composite index: excellent, high, mid-high, mid-low, and low. We use the province codes to merge the PCI score and PCI tiers with two datasets mentioned above to have a set of data containing 28,322 observations of 5984 firms from 2012 to 2018.

**Table 2: Statistics of main variables**

Variable	Obs	Mean	Std. Dev.	Min	Max
$TP_{ijt}$	28,322	0.443542	0.496811	0	1
$FDI\_linkage_{ijt-1}$	21,482	0.188251	0.390921	0	1

LBE <sub>t</sub> (PCI score)	28,322	60.10387	3.590108	45.12	70.69
private <sub>t</sub>	28,322	0.391498	0.488094	0	1
state_invest <sub>t</sub>	28,322	0.552892	0.497203	0	1
lnemployee <sub>t</sub>	28,321	4.018478	1.363333	0	9.9829
Firm age <sub>t</sub>	28,172	2.344521	0.533727	0	4.29046

Table 2 presents statistic summary of the data. It is noted that due to the use of the lagged values of FDI linkages and missing values of variables, the sample size is reduced to 21,371 observations in regressions.

**4. RESULTS**

**4.1. Effects of FDI linkages on firms’ technological advancement**

Table 3 presents the estimation results on how linkages with foreign-invested firms impact the technology advancement of firms. Column (1) employs a probit model with random effect, while columns (2), (3), and (4) insert the time-mean of each regressor into the model (Mundlak correction). Overall, the results show that firms doing business with FDI partners tend to have a higher probability of improving their technology. Specifically, when we control year dummies, industry dummies, and Mundlak correction in the regression (4), the finding implies that firms with FDI linkages advance their technology around 14.7 percent more than those without FDI linkages. These results are in line with previous studies that FDI linkages positively impact firms’ technological progress (Bučar et al., 2009; Zhao & Zhang, 2010; Javorcik, 2004; Ni et al., 2017).

Estimation results on other variables show differences in their role in technology advancement in the regressions with and without Mundlak correction. When we use only the random probit model, the results show a positive significant impact of foreign ownership, private ownership and state ownership, and firm size on firms’ technology advancement. Nonetheless, with the insertion of time-mean values of regressors, only the impact of firm size remains significant, while other variables of ownership show an insignificant correlation with firms’ technology improvement. The result of column (4) indicates that firms of different ownership types are indifferent in terms of technology advancement. Similarly, firm age in all regressions shows no impact on the technology improvement of firms. Meanwhile, firms with a larger number of employees are more likely to upgrade their technology.

**Table 3: Effects of FDI linkages on firms’ technological progress**

	TP (1)	TP (2)	TP (3)	TP (4)
FDI_linkage <sub>t-1</sub>	0.153*** (4.97)	0.161*** (5.26)	0.147*** (4.78)	0.149*** (4.85)
private	0.0770 (1.19)	0.00764 (0.04)	0.00560 (0.03)	0.00294 (0.01)
state_invest	0.119*	-0.112	-0.103	-0.114

	(1.85)	(-0.56)	(-0.51)	(-0.57)
Inemployee	0.226***	0.122***	0.127***	0.123***
	(20.81)	(4.25)	(4.52)	(4.26)
Firm age	-0.0379	-0.0498	-0.0729*	-0.0453
	(-1.32)	(-0.99)	(-1.68)	(-0.90)
Industry dummies	Yes	No	Yes	Yes
Year dummies	Yes	Yes	No	Yes
Mundlak correction	No	Yes	Yes	Yes
Constant	-1.099***	-1.226***	-1.180***	-1.192***
	(-10.50)	(-11.38)	(-10.49)	(-10.55)
Observations	21371	21371	21371	21371

Note: \*, \*\*, \*\*\* denote significant at 10%, 5%, and 1%, respectively

#### 4.2. Impact of local business environment on the firm technology advancement

The effect of local business environment on the firm technology upgrade is shown in Table 4. The composite PCI index is added to the model to see how the local business environment impacts firms' technology advancement. The results show that the quality of local business environment shows a consistent impact on firm technology change when regressors of PCI score are statistically significant at 1 percent significance level in all regressions. In column (4), when industry characteristics, year dummies, and Mundlak correction are added into the model, the finding indicates that when the value of PCI score increases by 1 unit, the probability of firm technology advancement increases by 2.66 percent. These findings confirm the results of existing studies about the positive role of local business environment on the technological progress of firms (Krammer, 2009; Gogokhia & Berulave, 2020; Peng et al., 2008; Zhang, 2019).

**Table 4: Effects of local business environment on firm technological progress**

	TP (1)	TP (2)	TP (3)	TP (4)
FDI_linkage <sub>t-1</sub>	0.147*** (4.78)	0.155*** (5.04)	0.142*** (4.62)	0.144*** (4.67)
LBE	0.0223*** (4.28)	0.0237*** (4.53)	0.0126*** (3.40)	0.0222*** (4.25)
private	0.0790 (1.22)	0.0103 (0.05)	-0.00162 (-0.01)	0.00569 (0.03)
state_invest	0.113* (1.76)	-0.108 (-0.54)	-0.122 (-0.61)	-0.110 (-0.55)
Inemployee	0.227*** (20.84)	0.121*** (4.21)	0.139*** (4.89)	0.122*** (4.22)
firmage	-0.0452 (-1.57)	-0.0523 (-1.04)	-0.127*** (-2.75)	-0.0478 (-0.95)
Industry dummies	Yes	No	Yes	Yes
Year dummies	Yes	Yes	No	Yes
Mundlak correction	No	Yes	Yes	Yes



Constant	-2.390*** (-7.47)	-2.596*** (-8.07)	-1.895*** (-7.94)	-2.475*** (-7.66)
Observations	21371	21371	21371	21371

Note: \*, \*\*, \*\*\* denote significant at 10%, 5%, and 1%, respectively

The effects of FDI linkage on technology change in Table 4 show consistent results with Table 3. The findings indicate that firms linking with FDI firms are around over 14 percent more likely to upgrade their technology.

Likewise, the other variables, i.e, foreign ownership, private ownership, and state ownership, show differences in regressions with and without Mundlak correction. The result in column (1) without Mundlak correction, all variables of ownership types show a positive significant impact on firms’ technology upgrade. Nonetheless, when we add Mundlak correction into the model, the estimation shows that there is no difference in the technology upgrade between foreign firms and domestic firms, between private and non-private firms, and between state and non-state firms. Meanwhile, the firm size always shows a significantly positive impact on technology advancement. It implies that larger firms are more likely to upgrade their technology. Like previous findings, the results also show that firm age has no significant impact on the technology improvement of firms.

**4.3. FDI linkages, local business environment, and the firm technology advancement**

Table 5 shows how the impact of FDI linkages on firm technology advancement varies in different business environments. The estimation results show that interaction terms between FDI linkage and PCI composite index are positive at the 5 significance level in all regressions. The values of the interaction term range from 0.014 to 0.0157. It implies that in a better business environment, firms linking with FDI are around 1.4 percent to 1.57 percent more likely to upgrade their technology advancement than in a less favorable environment. In other words, a higher-quality local business environment is likely to enhance the positive spillover effects from FDI firms on firms’ technology advancement in Vietnam. These findings are consistent with arguments of previous studies (Peng et al., 2008; Zhang, 2019; Isaksson, 2007).

**Table 5: Effects of FDI linkages on firm technological progress in different local business environments**

	TP (1)	TP (2)	TP (3)	TP (4)
FDI_linkage <sub>t-1</sub>	-1.331* (-2.51)	-1.366 (-2.57)	-1.341 (-2.54)	-1.399 (-2.64)
LBE	0.0187*** (3.49)	0.0200*** (3.72)	0.00843** (2.10)	0.0184*** (3.43)
FDI_linkage <sub>t-1</sub> x PCI score	0.0242*** (2.79)	0.0249*** (2.87)	0.0243*** (2.81)	0.0253*** (2.91)
private	0.0819 (1.26)	0.0132 (0.07)	0.000130 (0.00)	0.00836 (0.04)
state_invest	0.115* (1.80)	-0.106 (-0.53)	-0.122 (-0.61)	-0.108 (-0.54)

Inemployee	0.226*** (20.83)	0.119*** (4.12)	0.137*** (4.82)	0.119*** (4.13)
firmage	-0.0452 (-1.57)	-0.0523 (-1.04)	-0.129*** (-2.79)	-0.0477 (-0.95)
Industry dummies	Yes	No	Yes	Yes
Year dummies	Yes	Yes	No	Yes
Mundlak correction	No	Yes	Yes	Yes
Constant	-2.174*** (-6.61)	-2.375*** (-7.19)	-1.643*** (-6.45)	-2.251*** (-6.78)
Observations	21371	21371	21371	21371

*Note:* \*, \*\*, \*\*\* denote significant at 10%, 5%, and 1%, respectively

The estimation of other variables is consistent with the findings in the previous examination without the interaction term. Similar to the findings in Tables 3 and 4, large firms have a higher probability of upgrading their technology than smaller firms. Nonetheless, firm age and ownership type show no impact on firms' technology improvement when we control for industry characteristics and year dummies with Mundlak correction.

#### 4.4. Additional analysis

##### *Small versus large firms*

Le (2018) argues that SMEs and large firms are different in terms of vulnerability to the business environment and the efficiency in FDI linkages due to their difference in capacities and resources. Thus, we insert the interaction between FDI linkages and dummy variable of firm size into the regressions and re-estimate on the sub-samples of good local and poor local business environments. According to the classification of Vietnam Enterprise Law 2018, a firm is classified as an SME if its total number of employees is less than or equal to 200. Those with more than 200 employees are considered large firms. We use tier classification in the PCI dataset to classify into two groups of good and poor business environments. Provinces with a good business environment are those of excellent, high, and mid-high PCI. Provinces with low and mid-low PCI belong to the group of poor business environment.

Table 6 presents how the impact of FDI linkages on technology change is different between SMEs and large firms, and how the interaction effect of firm size and FDI linkages varies in different business environments. Column (1) shows the estimation results on the whole sample to examine whether the FDI linkages impact technology upgrades of SMEs and large firms differently. The findings indicate that FDI linkages positively impact firms' technology upgrades. Nonetheless, it implies that when linking with FDI linkages, SMEs are around 14.2 percent less likely to upgrade their technology.

In Columns (2) and column (3), we re-estimate the regression on the sub-samples of good and poor local business environments. The findings in both two samples are consistent in the impact of FDI linkages and firm size separately when FDI linkages are shown to have a positive impact on firms' technology advancement, and small and medium-sized firms are less likely to upgrade their technology. Nonetheless, the interaction terms are different between the two samples, indicating

that the impact of FDI linkages on SMEs depends on the quality of local business environment. The insignificant value of interaction terms in Column (2) implies that in a good local business environment, SMEs and large firms are indifferent in technology improvement possibility when having linkages with FDI firms. Meanwhile, in the sample of poor local business environment, the negative significant coefficient at the 1 significance level indicates that SMEs are around 17.3 percent less likely to upgrade their technology when doing businesses with FDI firms. It is noted that the magnitude of interaction terms in the sub-sample of poor business environment is much larger than that of the whole sample. It means a favorable business environment is particularly essential for SMEs to improve the efficiency of FDI linkages in terms of technology advancement.

**Table 6: Effect of FDI linkages on firms' technological progress by firm size**

	Whole sample (1)	Good LBE (2)	Poor LBE (3)
FDI_linkage <sub>t-1</sub>	0.269*** (4.85)	0.310*** (3.51)	0.280*** (4.07)
SME	-0.0958*** (-3.00)	-0.157*** (-3.01)	-0.0925** (-2.43)
FDI_linkage <sub>t-1</sub> x SME	-0.0946* (-1.45)	-0.0660 (-0.64)	-0.134** (-1.65)
private	0.00783 (0.04)	0.264 (0.73)	-0.0179 (-0.07)
state_invest	-0.129 (-0.64)	0.00410 (0.01)	-0.129 (-0.52)
firmage	-0.112** (-2.22)	-0.130 (-1.28)	-0.129** (-2.15)
Industry dummies	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
Mundlak correction	Yes	Yes	Yes
Constant	-0.455*** (-4.05)	-0.453*** (-2.61)	-0.369*** (-2.81)
Observations	21372	7067	14305

*Note:* \*, \*\*, \*\*\* denote significant at 10%, 5%, and 1%, respectively

These findings are particularly essential for a transition economy like Vietnam when the number of SMEs dominates in the economy (Tran, 2019; Vu & Hoang, 2021; Vu & Nguyen, 2021), but they are vulnerable to regulations due to the lack of resources. The public sector should focus on improving the quality of local business environment to help small and medium firms to take advantage of FDI spillovers for their technological advancement.

#### *Analysis on firms in different industries*

The impact of FDI linkages and local business environment on firms of different sectors are likely to be different due to their particular characteristics (Ni et al., 2017). Thus, we split firms into two groups of medium-and-high technology and low-technology industries using

the OECD technology intensity definition of OCED (2011). The dummy variables of sector group equal 1 if firms are medium-and-high technology and 0 otherwise. The interaction terms between FDI linkages and the binary technology sector are inserted into the regressions to see how FDI linkages impact the technology upgrade of firms belonging to different industry groups. We also split the whole sample into two sub-samples of good and poor local business environments and run regressions for the whole samples and two subsamples to see how local business environment matters.

Column (1) of Table 7 represents the estimation results on the whole sample to see whether FDI linkages affect firm technology improvement of different sectors. Similar to the previous results, the finding implies that linking with foreign-invested partners can boost the technology of firms, especially for firms in high-and-medium technology sectors. It indicates that high-and-medium technology firms are around 12 percent more likely to upgrade their technology when doing with FDI partners than those of the low-tech sector.

Comparing the estimation results of good local business environment and poor local business environment, Columns (2) and (3) indicates that firms of high-and-medium technology are always more likely to upgrade their technology when linking with FDI partners than those of low-tech sectors, no matter whether they are operating in a good or poor business environment. However, the higher magnitude of interaction terms in higher quality business environment indicates that a better business environment encourages high-and-medium tech firms to upgrade their technology in FDI linkages more than in worse institutional quality.

**Table 7: Effects of FDI linkages on firms' technological progress by industries**

	Whole sample (1)	Good LBE (2)	Poor LBE (3)
FDI_linkage <sub>t-1</sub>	0.0848** (1.99)	0.117* (1.76)	0.0705 (1.34)
capital_intensive	0.00166 (0.05)	0.0195 (0.41)	-0.00149 (-0.04)
FDI_linkage <sub>t-1</sub> x capital_intensive	0.153** (2.52)	0.168** (1.67)	0.104** (1.98)
lnemployee	0.121*** (4.22)	0.109** (2.09)	0.132*** (3.73)
private	0.0217 (0.11)	0.357 (1.00)	-0.0302 (-0.12)
state_invest	-0.100 (-0.50)	0.104 (0.28)	-0.119 (-0.48)
firmage	-0.0499 (-0.99)	-0.0199 (-0.20)	-0.0693 (-1.15)
Industry dummies	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
Mundlak correction	Yes	Yes	Yes

Constant	-1.225*** (-11.24)	-1.373*** (-8.21)	-1.163*** (-8.99)
Observations	21371	7067	14304

*Note:* \*, \*\*, \*\*\* denote significant at 10%, 5%, and 1%, respectively

## 5. CONCLUSIONS

This study investigates how linkages with foreign-invest firms affect the technological advancement of domestic firms in different local business environments in the transition economy of Vietnam. The empirical findings reveal that the improvement in technology of the domestic firms is determined by their linkages with FDI firms and favorable business environment. Linkages with FDI firms facilitate the technological progress of Vietnam firms and this positive impact is enhanced in a favourable business environment. Additionally, the study also discovers that a favourable business environment is essential for SMEs and medium-and-high-technology firms in Vietnam to absorb technological spillovers from their FDI partners.

Our findings provide important policy implications to facilitate the technological progress of domestic firms in transition economies, where small and medium firms dominate and the medium-and-high technology industries have lacked behind those of advanced economies. To boost technological advancement, the public sector should pay attention to encouraging the linkages between foreign-invested firms and local ones. Additionally, the process of institutional reforms should be implemented thoughtfully.

FDI linkages can affect domestic firms' performance not only via technology but also through different channels such as the movement of human resources which has not been covered in this research. Studies in the future should focus on examining the relationship between FDI linkages and those facets to have a more overall picture of the spillover mechanism from FDI partners to domestic firms.

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## VIETNAM AND THE MIDDLE-INCOME TRAP IN DEVELOPMENT

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**Abstract:** *This article covers the general issues of the Middle-income trap, thereby identifying the risk of falling into Vietnam's middle-income trap, the reasons and proposing some solutions for Vietnam to overcome the middle-income trap and enter the league of high-income countries in 2045.*

*Keywords: middle-income trap, growth rate, development, MIT, MICs...*

### 1. INTRODUCTION

In 2009, Vietnam officially became a low-middle income country. The next goal is Vietnam will become a high-income country by 2045. Can it be achieved when in fact, Vietnam's growth trend is gradually decreasing, many new barriers appear, such as vulnerability due to the pandemic, difficulties in adapting to the industrial revolution 4.0, etc...? Is Vietnam at risk of falling into the middle-income trap (MIT)?

### 2. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES

As soon as Vietnam officially exits the group of low-income countries, economists also warned of the risk of a middle-income trap (MIT) waiting for Vietnam. Looking at the experience of neighboring countries such as Thailand, and Malaysia - countries that are said to have spent many years unable to escape beyond the Middle- income group, and join the high-income countries, Vietnam's leaders have been very serious, trying to run the economy with the aim that, Vietnam does not fall into the middle-income trap.

There are quite a lot of research, international as well as domestic conferences, which have been conducted around the topic of the middle-income trap. Some notable studies include:

- ADB, 2017, "*Middle-income trap: review of the conceptual framework*"[1]. The aim of this study is to develop a conceptual framework for the Middle-income trap. Accordingly, the research presented an extensive literature review of what the Middle-income trap concept is, why economies become "stuck" in the Middle-income trap, and how the idea is criticized. At the same time, the research put together a list of countries stuck in the Middle-income trap according to different definitions. It also proposed a framework for assessing exposure to the Middle-income trap based on the following factors: i) unfavorable demographics, ii) low level of economic

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diversification, iii) inefficient financial market, iv) insufficiently advanced infrastructure, v) low level of innovation, vi) weak institutions, vii) inefficient labor market.

- Kenichi Ohno, “*Avoiding the Middle Income Trap: Renovating Industrial Policy Formulation in Vietnam*” – Vietnam Development Forum (VDF), Hanoi national Graduate Institute for Policy Studies, Tokyo, Feb 26<sup>th</sup>, 2010 [2]. The research confirmed that Vietnam’s growth in the last one-and-a-half decades was very remarkable. And now, in order to make processes of systemic transition and global integration deeper, Vietnam needs to create internal value to continue to grow and avoid the “*Middle-income trap*”. Vietnam has reached the point where growth towards higher income cannot be secured unless policy-making is renovated significantly to activate the country’s full potential. This research also recommended Vietnam should create industrial strategies, and concrete action plans and strengthen the strategic alliances with international partners, which are considered keys points for the renovation of Vietnam’s industrial policy formulation.

- Paus, Eve - ADB, March 2017, “*Escaping the Middle-Income Trap: Innovate or Perish*” [3], had analyzed the reasons for the middle-income trap in Latin America, where countries have been at the Middle-income level for decades, and drew out lessons for Asia. This research supposed insufficient development of domestic innovation capabilities is at the heart of the middle-income trap. Especially, globalization brings many challenges for middle-income countries to narrow the capabilities gap, because there are more and more barriers for them in the context of technological innovation changing faster. This research proposed a comprehensive innovation-focused strategy with strategic active policies, making an innovation ecosystem are the only way to escape the middle-income trap.

- Son, D.K. 2021, “*Renovation of economic growth model*” – the National Political Publishing House [4]. This monograph commended the Middle-income trap is also an issue, demonstrating the need to renew the economic growth model in Vietnam in the coming time.

- In addition, there have been quite a lot of seminars conducted in the country since 2009, all around the issue of the Middle-income trap and recommendations for Vietnam to avoid it.

All these researches are putting Vietnam in a normal development context, with the operation of the economy, as well as the world economy being stable in the new development trend. However, the Covid-19 pandemic that occurred and spread globally since the end of 2019, the war between Russia and Ukraine in early 2022 has turned upside down and really become a major barrier in the growth process of many countries including Vietnam. In April 2022, the World Bank lowered the growth forecast of most countries, with Vietnam being one of the most adjusted countries [5].

This once again warns of the risk of being trapped in Vietnam’s Middle-income trap.

### **3. RESEARCH RESULTS:**

#### ***Middle-Income Trap and classification of the world’s nations***

The term “*Middle-income trap*” was indirectly introduced by Garret (2004), who observed that the growth rates of Middle-income countries had been in stagnation since the 1980s. This term was defined for the first time by Indermit Gill and Homi Kharas (2007) – two economists working at the World Bank. Accordingly, the “*Middle-income trap*” refers to the status of a country that,

despite being lifted out of poverty and joining the group of Middle-income countries took decades to become a high-income country [1].

It is necessary to explore how to classify the world's nations before making clearer about Middle-income trap

The World Bank, an international organization dedicated to helping countries overcome poverty, has historically classified every economy as low, middle, or high income [6]. It now further sorts each of the world's nations into one of four categories: high-income, upper-middle-income, lower-middle-income, and low-income. Upper-middle-income countries and lower-middle-income countries are known collectively as Middle-income countries (MICs). In response to shifts in the global economy, the World Bank adjusts the boundary lines between the categories each July. This organization uses GNI per capita, in current US dollars converted by the Atlas method of a three-year moving average of exchange rates, as the basis for this classification. It views GNI as a broad measure and the single best indicator of economic capacity and progress.

**Table 1: Classification of the world's nations based on income**

Categories	GNI/capita (Unit: USD)	
	2020 – 2021	2021 – 2022
Low-income countries	<=1.035	<= 1.045
Lower-middle income countries	1.036 – 4.045	1.046 – 4.095
Upper-middle income countries	4.046 – 12.535	4.096 – 12.695
High-income countries	>= 12.536	>= 12.696

*Source: World Bank [6]*

According to this classification, for the 2022 financial year, the World Bank placed 80 countries in the high-income category. Many of these countries, such as the United States, Canada ... have consistently ranked in this category since the 1980s [7]. Besides, there are a number of countries, such as Russia, Venezuela and the latest are Mauritius, Panama, and Romania which are countries that slipped to middle income, and have yet to regain the high-income classification.

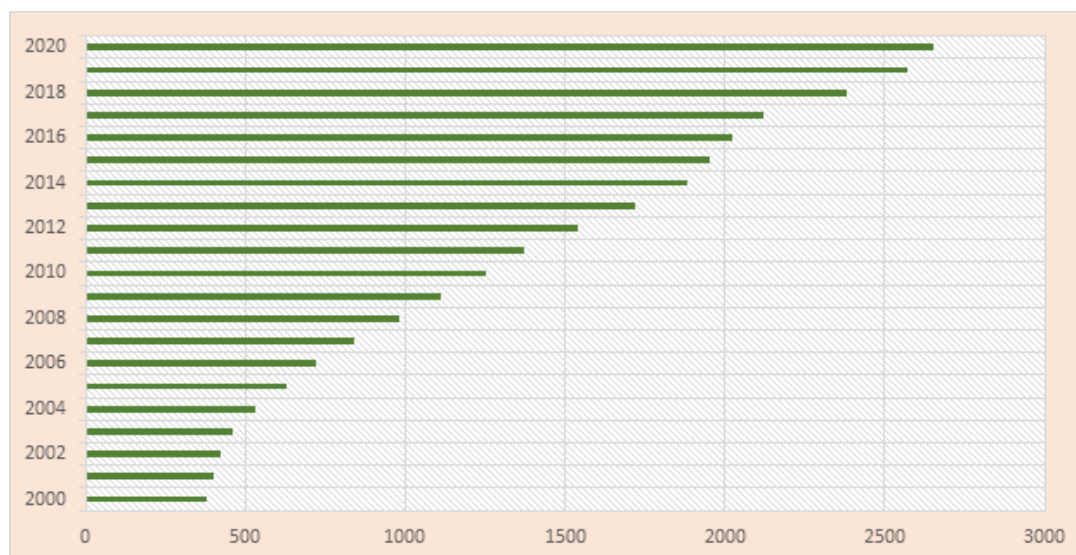
In terms of Middle income, there are more than half of the world's countries (109 countries in 2020 – 2021 and 110 ones in 2021-2022) are Middle-income countries. Many MICs face similar challenges, which often include population growth that outpaces the development of infrastructure, a lack of investment capital and skilled workers, and government corruption and/or instability [8], [9].

Come back with the term “Middle-income trap”. In fact, many Low-income countries have successfully made the transition to Middle-income status, thanks to rapid economic growth. However, they had stayed in this group for a long time, and still have not achieved the High-income status which is GNI per capita of above US \$12,696 (according to the newest classification), like some countries in Latin America as well as Thailand, Malaysia... in Asia. It is said that, those countries have got stuck in a Middle- income trap. Today, the term is constantly gaining popularity. More and more countries are identified as potential victims of the Middle- income trap. It is becoming an important as well as worrying issue for many countries in the world.

### *Identification of risk of falling into Vietnam's Middle-income trap and reasons*

Vietnam has been ranked among Lower-middle income economies since 2009 when its GNI per capita reached the US \$1,010. Since then, Vietnam's GNI/capita has increased annually, of which GNI in 2020 is US \$2,660 per person (according to the WB), equivalent to a GDP per capita is the US \$ 2,779 per person.

**Chart 1: GNI per capita (USD) in VN**



Source: [data.worldbank.org](http://data.worldbank.org) [10]

Thus, Vietnam's GNI/capita has more than tripled after 13 years of escaping from the group of Low-income countries [11]. It is a really impressive result, and it is also the basis for Vietnam to aim to become a High-income country by 2045. This goal is completely grounded because according to a study by the Asian Development Bank – ADB - in 2018, the average time a country needs to go from a Lower-income to a High-income status is from 30 to 40 years. This is the “golden period”, because if it finishes without increase income, it will be officially seen as falling into the Middle-income trap. Vietnam has run nearly a half of way. And there are a lot of things Vietnam has to do to get the ambitious goal of becoming a high-income country by 2045.

To get this target, VN has set the plan for socio-economic development for the next stage with a growth rate in 2021 - 2025 is from 6.5% to 7.0% to become an Upper-middle income nation with GDP/capita reach from the US \$4,700 to the US \$5,000. And then, it will try to remains a growth rate annually at 7% or higher in the next following 20 years (2026-2045) to get opportunity to enter the league of high-income countries in 2045 [12].

However, the growth of Vietnam's economy is tending to slow down when the growth rate in 2021 is only 2.58% (compared to the target of 6.5%) [14]. Thus, high growth pressure (remains at 7.5%) will be concentrated in the period of 2022- 2025 and 2026-2045. It is really difficult when the most optimistic forecast for 2022 is only 6.6% [15].

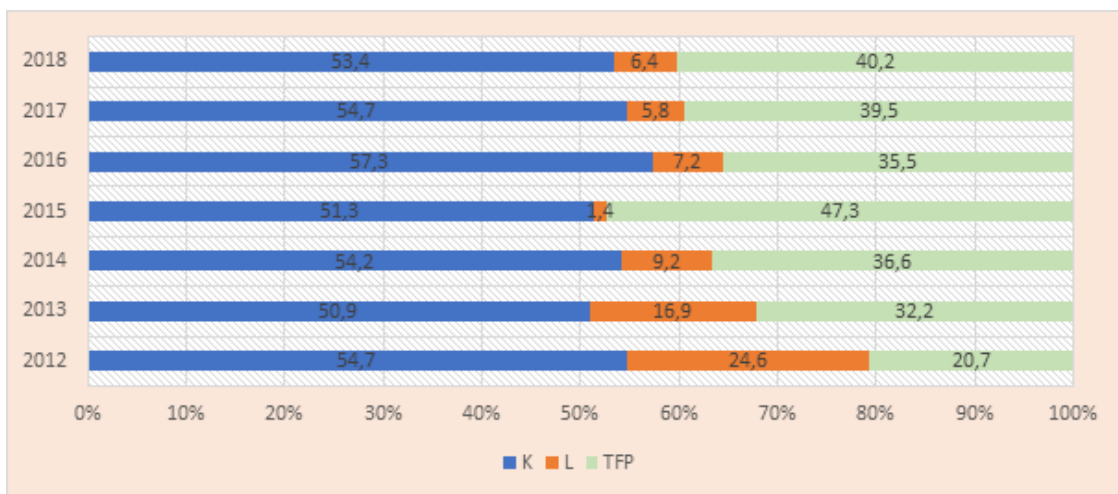
The above analysis shows that Vietnam has not been stuck in the Middle-income trap, however, the risk is clear. There are many reasons given, however, the author wants to highlight the 3 key reasons:

Firstly, the damage caused by the Covid-19 pandemic is too great. The Covid-19 pandemic has had a profound and comprehensive impact on all sectors of the economy. Although Vietnam still achieves positive economic growth rates in 2020 and 2021 at 2.9% and 2.58% respectively - this is the lowest growth rate in the past 30 years. Production and business activities in Vietnam in these years were only at the level of maintaining operations. And perhaps Vietnam will need more time to recover its economy, then break through strong growth.

Secondly, Vietnam’s growth still depends too much on the increase in capital rather than on the efficiency of using human resources and the application of technological advances.

**Chart 2: Contribution of TFP factor in Vietnam’s economic growth**

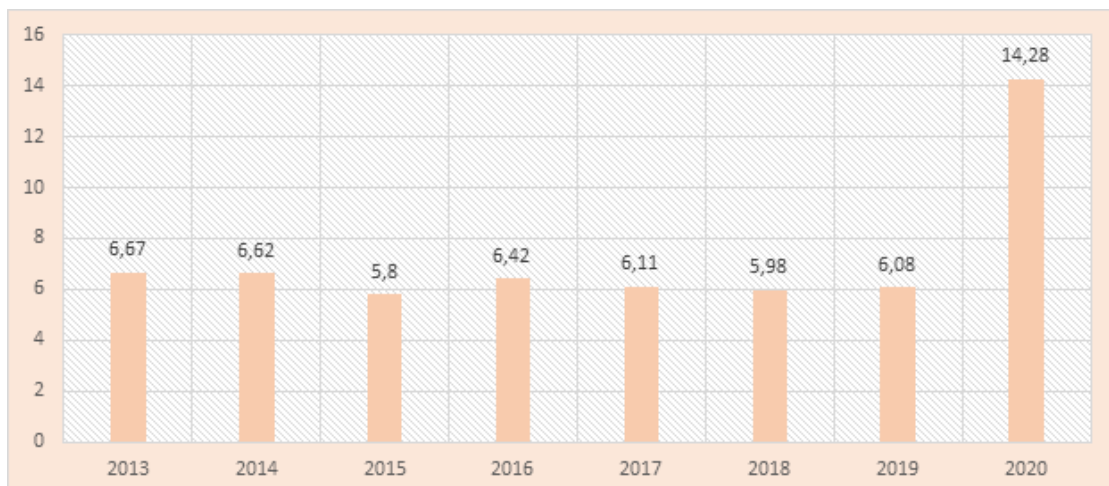
Unit: %



Source: Son, D.K. 2021, “Renovation of economic growth model”[14]

Chart 2 shows that the contribution of TFP has increased over the years however, the contribution of capital in growth is almost constant and always remains at over 50%. This means that Vietnam’s economic growth depends greatly on capital. However, the efficiency of capital use is not high when the ICOR coefficient is always maintained at 6.

**Chart 3: The ICOR Index In Vietnam**



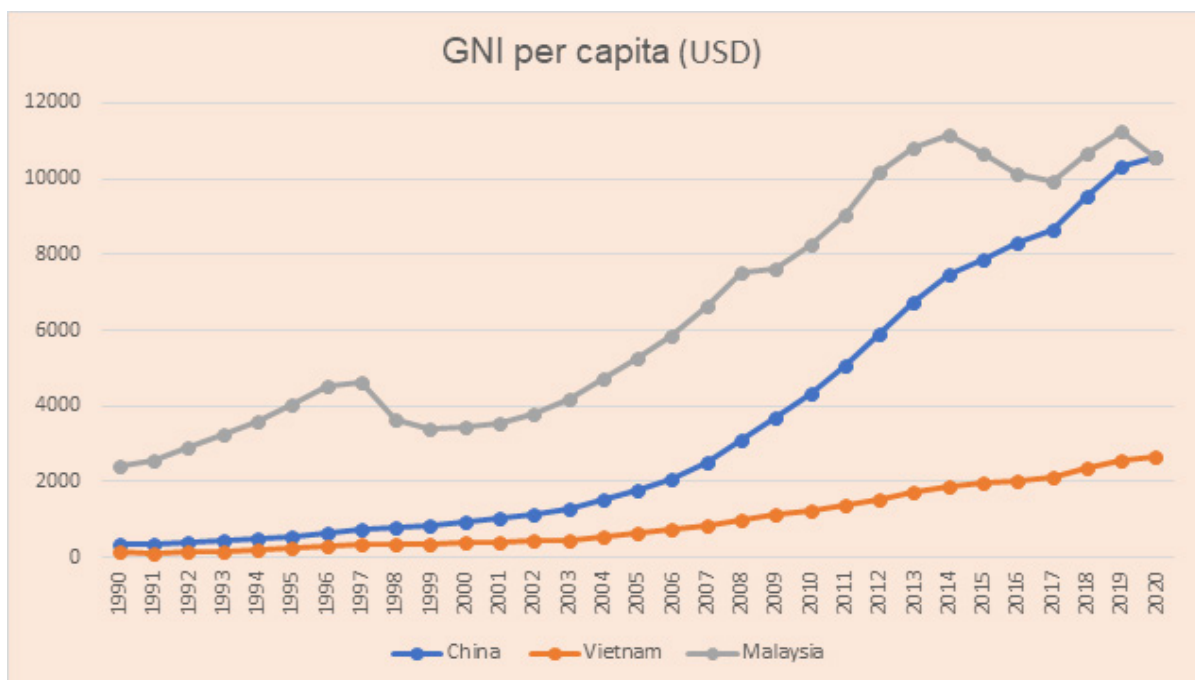
Source: <https://www.gso.gov.vn> [14]

*Thirdly*, the quality of human resources and scientific and technological capacity is still limited, not meeting the requirements of economic development. These two factors have a bonding relationship and motivate each other. Also, the low quality of human resources hindered the economy's ability to apply technological research results as well as absorb innovative technologies. It is worth mentioning that these are factors associated with the 4.0 Industrial Revolution to promote and create opportunities for Vietnam to shorten the development gap with previous countries.

All of these increase Vietnam's risk of getting stuck in the middle-income trap. The chart 4 shows that in 1990, when both China and Vietnam were still Low-income countries, Malaysia was already in the group of Middle-income countries. However, by 2020 (means after 30 years), Malaysia is still stuck in the Middle income group. Meanwhile, China has made a dramatic change with its GNI/ capita growing vertically. As a result, in 2020, China has caught up with Malaysia. If China maintains its the current growth rate of GNI per capita, China will officially join the group of high-income countries in 2023 or 2024.

Looking back at Vietnam and comparing the growth trend, it can be seen that Vietnam must put a lot of effort in the next 20 years to achieve its goal of becoming a high-income country by 2045.

**Chart 4: Comparison GNI Per Capita of Vietnam, China and Malaysia**



Source: data.worldbank.org [10]

### **Solutions**

*The first*, transforming the growth model associated with scientific and technological progress and high-quality human resources. The economic growth model that Vietnam has been applying is clearly no longer suitable, even a factor hindering growth. Transforming the growth model will bring a better quality of growth, more efficiency in using resources of the economy as well as the ability to adapt to new development requirements and conditions. Only in this way, Vietnam

can improve productivity in manufacturing industries, increase competitiveness, create higher and higher value as well as create breakthroughs in growth. Because it is increased productivity that is the key to escaping the middle-income trap. Transforming the growth model is also very meaningful when many of the drivers that propelled the country's growth in the past will diminish over the next decade, like a large number of workers, abundant resources...; At the same time, it is also an effective way to protect the environment, towards the goal of net-zero emissions as committed by Prime Minister Pham Minh Chinh at COP26.

*Second*, Vietnam should and needs to take advantage of the opportunities brought by the Industrial Revolution 4.0 to break through in growth. Because if Vietnam can not catch up or fails to adapt, it might face the risk of falling behind and getting stuck in the Middle-income trap. Therefore, Vietnam needs to be flexible and adaptive to make the best use of opportunities in the technology age, and that is also a way to limit the risk of falling behind. Accordingly, Vietnam needs to strongly promote digital transformation in sectors ranging from manufacturing to service activities, strengthening the application of AI technology in operation, processing, and organization.

*Third*, it is necessary for Vietnam to improve investment efficiency. As mentioned above, the contribution of capital to growth in Vietnam accounts for a high proportion of low-efficiency use. Therefore, the construction of an effective financial system is essential, thereby helping to allocate investment capital to the right places as well as areas to invest in, like investing into the infrastructure sector, for example. At the same time, Vietnam needs to remove barriers away private investment sector, and strongly promote the role of the private sector in promoting dynamic economic development. Green investment is also a common and effective trend, because it pays off in the long run as it spurs innovation, promotes efficient solutions, and helps Vietnam complete its middle-income transitions.

*Fourth*, Vietnam needs to develop its labor force in the direction of enhancing skills and applicability to new conditions in the digital era. Sharing Malaysia's experience in workforce development, Mr. Yogeevaran – Former Ministry of Crop Industry and Commodities Malaysia emphasized focusing more on vocational training. Human capital, expressed in the abundant workforce in quantity, high quality, and skilled, will be a factor promoting the efficiency of using other sources of the economy. Moreover, in the context of integration and globalization, high-quality human resources can provide outsourcing services, thereby, bringing a source of high income for themselves and for the country. To do so, Vietnam needs to invest in transforming its education system, and in particular needs a major reform pushes to build inclusive and competitive vocational training systems. This gives workers many job opportunities as well as the opportunity to become global citizens.

*And the last*, Vietnam needs to establish an effective government by improving the Government index and the Global governance index under specific activities such as: implementing accountability, information transparency, strengthening digital government, improving the quality of public services... This is necessary to create an effective functioning institution, reduce bureaucracy and corruption, increase credibility as well as make the most of the support in many aspects of countries around the world in the development process. At the same time, building an

effective government will not only form a dynamic, creative, and modern management apparatus but also help with the formulation and implementation of policies to promote knowledge and innovation.

#### 4. CONCLUSION

Although it has not been confirmed that Vietnam is in the Middle-income trap, the risk is there and clear. With practical data, the article has shown the current state of Vietnam's economy showing the risk of falling into the Middle-income trap, explaining the causes and proposing some solutions. Vietnam needs to act thoroughly and synchronously with a range of solutions in order to have the opportunity to make a breakthrough in growth and not be caught in the Middle-income trap./.

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# SUSTAINABLE HIGH-TECH AGRICULTURE DEVELOPMENT IN VIETNAM CURRENTLY

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**Abstract:** *High-tech agriculture is agriculture that applies new and advanced technologies to production in order to create productivity and quality for agricultural products; ensure environmental friendliness; safe for human health. Developing hi-tech agriculture is an inevitable trend of world agriculture in general and Vietnamese agriculture in particular. Vietnam has favorable conditions to develop high-tech agriculture to create competitive agricultural products in the international market. However, there are also certain difficulties in developing high-tech agriculture in Vietnam. Therefore, promoting the advantages, overcoming the difficult factors to come up with solutions to develop hi-tech agriculture in Vietnam is a necessary requirement today.*

**Keywords:** *High technology; Agriculture; High-tech agriculture; Vietnam.*

## 1. INTRODUCTION

The development of high-tech agriculture is an inevitable development trend of agriculture in the context of the current booming scientific and technological revolution. New achievements of high technology applied to agriculture have changed traditional agricultural production methods and formed hi-tech agriculture in many countries, including Vietnam.

In addition, the process of international economic integration, along with the explosion of information technology, shows that the development of high-tech agriculture is an inevitable trend of world agriculture in general and agriculture. Vietnam in particular. That comes from the advantages of high-tech agriculture compared to traditional agriculture. High-tech agricultural production creates a large amount of agricultural products, high yield, good quality and especially environmentally friendly; High-tech agriculture will help farmers be proactive in production, reduce dependence on weather and climate, and expand production scale. Developing high-tech agriculture ensures production development in association with consumer health and ecological environment protection. The purpose of the article, the author focuses on analyzing the need to develop high-tech agriculture in Vietnam; raised a number of theoretical issues on high-tech agriculture; evaluate the achievements and limitations in the development of hi-tech agriculture in Vietnam; propose some solutions to develop hi-tech agriculture in Vietnam today.

## 2. RESEACH METHODOLOGY

The article is based on the most common methodological basis of materialist dialectic and historical materialism. The article uses specific research methods such as: analysis, statistics, systematization, interpretation, induction, etc.

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### 3. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES

Developing hi-tech agriculture is the development trend of world agriculture in general and Vietnam in particular. This development trend has been studied by many domestic and foreign scientists and there are a number of research works that have mentioned quite comprehensively about hi-tech agriculture. However, this is a new development trend of agriculture under the impact of the industrial revolution 4.0, so its incomplete and immature development will continue to create opportunities to research new issues arising in the future. development process. There are many research papers on high-tech agriculture, but research on sustainable high-tech agricultural development in Vietnam is still limited and incomplete. Here is an overview of some research projects on high-tech agriculture:

Pham S (2015) in the book Agricultural application of high technology is an indispensable requirement for international integration (Pham S, 2015) has introduced general information about the application of high technology in agriculture in different regions. successful countries in the world such as Japan, the Netherlands, Israel... and conducted surveys and researches on high-tech application models in Vietnam and the results achieved.

John P. Reganold and Jonathan M. Wachter in Organic Agriculture in the twenty-first century (Reganold. J.P and Wachter.J.M, 2015) studied the practice of organic farming according to 4 key sustainability factors: productivity, environmental impact, economic feasibility and social well-being.

Duc Tam in the article Agriculture in the AI era (Duc Tam, 2018) analyzed the birth as well as the characteristics of modern agriculture using artificial intelligence. This document provides the characteristics of a new and modern agriculture based on the application of high-tech achievements to agriculture.

Dang Kim Son in the book Agriculture, Farmers and Rural Development in Vietnam: Today and Tomorrow (Dang Kim Son - Institute of Policy and Strategy for Agricultural and Rural Development, 2008) has highlighted the current status of issues. issues of agriculture, farmers and rural areas, achievements as well as difficulties and obstacles that still exist. Etc.

Through the above overview, it is shown that there is not a topic that has fully and systematically studied the development of sustainable high-tech agriculture in Vietnam. Therefore, this is a gap that needs to be studied in detail.

### 4. RESEACH RESULS

#### 4.1. Some theoretical issues about hi-tech agriculture

\* ***The concept of high-tech agriculture:*** Hi-tech agriculture is an agriculture that is applied in combination with new and advanced technologies for production, also known as high technology in order to improve efficiency and create breakthroughs in terms of productivity and quality of agricultural products, satisfying the increasing demands of society and ensuring sustainable agricultural development. High technology is integrated and applied in hi-tech agriculture, including: agricultural industrialization (mechanization of stages of production, harvesting, preliminary processing, processing...), automation, technology. information technology, new material technology, biotechnology; high-yield, high-quality plant varieties and livestock varieties, achieving high economic efficiency per unit area and developing sustainably on the basis of organic farming.

\* ***Features of Hi-tech Agriculture:*** Investment capital is very large compared to traditional agriculture; apply new technologies, save costs, increase productivity, lower costs; building

new-style agricultural enterprises; production process is strictly controlled; optimizing human resources, reducing disaster risks; develop new energy sources and organic fertilizers, biological plant protection drugs, safe for use.

**\* *Important factors for sustainable high-tech agriculture development:*** Knowledge, understanding, passion for agriculture; Not afraid of difficulties, not discouraged when failing, know how to recognize problems, learn from mistakes after making mistakes; effective cash flow management, to save investment costs, avoid profit loss; have an effective method of handling output, avoiding the situation of losing prices in the harvest season, and having a bad season; pay attention to post-harvest processing and preservation, to increase the value of agricultural products; it is possible to combine building agricultural models with high-tech applications in combination with eco-tourism to increase income sources; promote communication, to increase the coverage of agricultural product brands.

**\* *The application of high technology in agriculture brings many benefits:*** Developing hi-tech agriculture and renewing science and technology is considered one of the key and key solutions. Applying science and technology solves challenges in agricultural development with the advantages of technologies such as: biotechnology, greenhouse technology, drip irrigation technology, sensor technology, automation, internet of things, etc., helping agricultural production save costs, increase productivity, lower costs and improve the quality of agricultural products, protect the environment. On the other hand, high-tech agriculture helps farmers be proactive in production, overcome seasonality, reduce dependence on weather and climate, and meet market demand for quality agricultural products.

**\* *Advantages and disadvantages in developing high-tech agriculture:***

- *Advantages:* Vietnam is a country with fertile and fertile land resources, with many different soil types; Variety of suitable and diversified crops are favorable for the development of comprehensive agro-forestry-fishery production. Many major policies of the Government have encouraged and created conditions for agricultural development such as: economic development policy by product; vocational training policy for rural workers; credit policy for agricultural and rural development; policies on agricultural development with high technology application, policies on encouraging enterprises to invest in agriculture, etc. Modernized concentrated commodity production zones with export processing zones, high-tech zones, specialized agricultural zones, etc., with economic linkage models have begun to be formed. Advances in science and technology in the world such as: biotechnology, microbiological technology, nanotechnology, hydroponic technology, aeroponics and modern machinery and equipment help improve labor productivity, Product quality is being widely transferred, creating opportunities for businesses to invest in agriculture and associate with farmers.

- *Difficulties:* However, despite many favorable conditions for development, the high-tech agricultural industry still faces many difficulties such as: High investment capital when investing in high technology; this new model has many shortcomings in the management stage; experts and human resources do not have enough skills and experience; Difficulty in choosing a reputable and quality supplier. This model of agricultural production means that the organization of production must be carried out on a relatively large scale and commensurate investment in terms of infrastructure and production technology while investment capital in agriculture in our country is still low. Besides, there is a lack of large-scale land for investment in science and technology

application in concentrated production areas; market for high-tech agricultural products is still limited and unstable; Inadequacies in research, technology transfer, limited human resources, etc., are barriers for the development of hi-tech agriculture in recent times.

#### **4.2. Current status of high-tech agriculture development in Vietnam**

High-tech agricultural production areas have developed strongly in many localities, increasing the proportion of high-tech agricultural products in the total value of agricultural products of the country. However, high technology has only been applied in a few small stages in the production chain, preliminary processing and product preservation, leading to low productivity, quality and value of agricultural products, lack of competitiveness not environmentally friendly. As follows:

##### ***\* Achievements acquired:***

Vietnam's agriculture has achieved great results since the renovation until now: The average GDP growth rate of the agricultural sector in the period 1986 - 2010 reached 5.5%/year; the period 2011 - 2015 averaged 3.1%; in the period 2016 - 2020 reached 2.7% [5]. Value added is higher and more stable than other countries in the region, increasing from 55.7% in 2010 to 61.1% in 2019 [4].

Advances in science and technology contribute over 30% of added value in agricultural production, 38% in the production of plant varieties and livestock. The level of loss of agricultural products has decreased significantly (rice is less than 10%, ...). The degree of mechanization at the stage of tillage for annual crops (rice, sugarcane, maize, vegetables) is about 94%; the stage of plant care and protection of rice and other plants reached about 70%; rice harvest reaches 50% (in lowland provinces 90%) [6]. In the field of horticulture, the transformation of crop structure has been accelerated, and the application of advanced production processes has been promoted. Due to good pest control, the output and quality of many crops with economic value increased. Vietnam has become the second largest exporter in Southeast Asia and the 15th in the world in terms of agricultural exports. By 2021, export turnover will reach \$41.25 billion, 85 times higher than in 1986. The proportion of high-quality rice accounts for over 80% of exported rice, helping to raise the average export price of rice from \$502/ ton in 2018 to 510 USD/ton in 2019. In particular, ST25 rice variety was recognized as "the best rice in the world in 2019" at the 11th World Rice Trade Conference held in the Philippines [6]. In particular, a number of items have export turnover of over 2 billion USD, such as: coffee, rice, cashew nuts, vegetables, shrimp, wood and wood products, etc. Vietnamese agricultural products have been exported to 196 countries and territories, including difficult markets such as the United States, Japan, EU, etc [6].

In the livestock sector, there has been a clear change in the organization of production, raising farms and farms, focusing on closed chains, applying advanced science and technology, and high technology. Many organic farming models have been formed and are being popularized and replicated. Seafood processing technology is increasingly invested in modern to meet the requirements of the international market.

The forestry sector has had a remarkable development with a stable growth rate; has mastered many advanced technologies, created processing and preservation lines with quality equivalent to imported products. Forming the forest product processing industry ranked second in Asia and ranked fifth in the world.

According to the report of the Ministry of Science and Technology in 2020, thanks to the application of science and technology in production, the structure of agricultural production

continues to be adjusted in the direction of promoting the advantages of each locality, region, and region. nationwide, associated with domestic and international market demand, adapting to climate change. Many enterprises have invested in large-scale concentrated production zones with modern technology associated with factories, storage and processing facilities for agricultural products with high export value. With the help of science and technology, applied in all stages of the agricultural production process from research, selection and breeding of plants and animals; planting, tending and cultivation techniques; animal feed; fertilizers, plant protection drugs, veterinary drugs; processing techniques, post-harvest preservation, etc., have created new values for agricultural products, keeping products fresh and safe, improving productivity, ensuring quality standards, etc. These results contribute to the rapid increase in export turnover of Vietnam's agricultural products over the years: in 2021, the total export turnover of agricultural, forestry and fishery products is estimated at 41.3 billion USD; trade surplus of the whole industry is estimated at 10.4 billion USD [6]. The contributions of science and technology in agricultural production show that the development of high-tech production is the right direction and has been creating a new driving force for Vietnam's agricultural industry.

**\* Limitations:**

However, besides the achievements, our country's agricultural industry is currently facing a rather long gap in accessing high-tech agriculture. The average growth rate of agricultural labor productivity in the period 2011-2021 is 5.2%/year, higher than the average growth rate of the industry and construction sectors (3%/year) and the service sector. (3.1%/year). But labor productivity in agriculture has the lowest value of all economic sectors; By 2020, at current prices, it will reach 39.8 million VND/labor, only equal to 38.9% of the labor productivity of the whole economy, equal to 30.4% of the labor productivity of the industry and construction sectors. construction, equal to 33.7% of the service sector [6]. and lower than other countries in the region. The main reason for the low labor productivity of Vietnam's agricultural sector is the small and fragmented production scale. Census data on rural areas, agriculture and fisheries, show that by 2020 the whole country will have 8.5 million agricultural households; The number of households with a cultivated land size of less than 1 ha/household is 88.3%, with a scale of less than 0.2 ha/household (very small area) accounting for nearly 40% [5].

The average area of agricultural land per person in Vietnam is low and continues to decrease, which has a direct impact on the application of science and technology to production and the application of advanced agricultural models. Production is divided into small, fragmented, non-chain households, thus facing many difficulties in the synchronous application of technology, as well as quality control and product traceability. Up to 63% of enterprises have difficulties in accessing land, especially in the agreement mechanism [9]. Because the land is fragmented, the land price bracket is not suitable for the market, the number of small-scale farming households accounts for a large proportion, so in order to implement investment projects, enterprises have to negotiate with many households. This is a big obstacle for enterprises implementing land consolidation for large-scale and high-tech agricultural development.

The labor force in the agricultural sector is large, but there is a shortage of qualified and skilled workers - the nucleus promoting the development of agriculture in the context of the industrial revolution 4.0. In particular, the increase in automation and the application of digitalization in the production process requires skilled and professional workers. As of the fourth quarter of 2020, our

country's labor force was estimated at 48.3 million people, with 31.8 million people working in rural areas, accounting for 65.1%. In which, the rate of trained workers in rural areas is 16.6%, 2.5 times lower than in urban areas (40.8%) [5].

Despite maintaining the growth rate and increasing productivity, Vietnam's agriculture is still basically a raw production, consuming a lot of resources, applying science - technology and mechanization in agriculture. The industry is still modest, labor productivity is low, and competitiveness is not high. Therefore, developing high-tech agriculture is now the key to solving the remaining problems of Vietnam's agriculture.

### **4.3. Solutions for developing hi-tech agriculture in Vietnam today**

The 10-year socio-economic development strategy 2021-2030 clearly states: "Promote agricultural restructuring, exploit and bring into play the advantages of tropical agriculture, develop large-scale concentrated commodity agriculture towards modernization...; carry out the restructuring of crops in accordance with the market's advantages and demands; improve the resilience and adaptability of agriculture and farmers to climate change in each region and region"; "Actively adapting to climate change, preventing, combating and mitigating natural disasters and epidemics" [1]. Determining the importance of high-tech applied agriculture, bringing Vietnam's agriculture to integrate and develop in the context of the Fourth Industrial Revolution, the XIII Congress determined: "Focus on developing agricultural products. export large goods, apply high technology; promote the potential and advantages of each region and each locality...increasing the value of agricultural products in value chains" [1].

In order to develop hi-tech agriculture in accordance with Vietnam's conditions, in the coming time, it is necessary to synchronously implement the following basic solutions:

*Firstly*, to complete and improve the quality of the master plan for high-tech agricultural development.

Review and adjust the planning strategy, complete the agricultural development planning in the medium and long term; develop plans for sectors, fields and products in order to bring into play the potentials and advantages of the country, region and locality. On that basis, build a legal framework, create a favorable environment for the formation of agricultural product value chains based on the comparative advantages of each region and each locality; forming concentrated production areas, creating favorable conditions for the application of science and technology to produce and process agricultural products.

*Secondly*, continue to improve the law on land, promote the accumulation and concentration of land for concentrated agricultural development and production value chain.

In order to carry out land accumulation and concentration, it is necessary to amend and supplement policies and laws on land, create favorable conditions for the accumulation and concentration of large-scale agricultural production land in the direction of expansion. for entities directly managing, producing and doing business in the field of agriculture, suitable to the conditions of each region and each field. First of all, review, adjust and supplement reasonable land use planning when implementing land accumulation and concentration, avoiding speculation; amend the policy on land acquisition for agricultural production (in Decree No. 47/2014/ND-CP) in a strict direction in order to limit the conversion of agricultural land to other purposes, ensuring the stability of the land area agricultural production. To develop a legal framework in

the implementation of land accumulation and concentration, there should be strict regulations and supervision in the formulation, adjustment and implementation of master plans and plans on land use, land acquisition and change the purpose of agricultural land use. Clearly define and publicize the legal basis for the rights of land users, and transparently provide information on land use planning so that enterprises can rest assured to invest. The planning must ensure to limit the conversion of land use purposes, meet the requirements of large production and form a production value chain, consider increasing the time for the land use planning period in order to improve the quality of the land. investment efficiency, solving the current small-scale production problem.

*Third*, increase investment in infrastructure for agriculture and rural areas, renew investment mechanisms and exploit, manage and operate infrastructure works in agriculture and rural areas.

Infrastructure in agriculture is a fundamental condition for the development of high-tech agriculture. In Vietnam, limitations in infrastructure are a huge development bottleneck of the economy in general and hi-tech agriculture in particular. Therefore, investment in infrastructure of the economy in general and agriculture in particular is an urgent need for economic development. In the context of limited state budget resources, the large public debt burden puts pressure on infrastructure investment from the budget, so the investment in infrastructure works in agriculture. In the coming time, it is necessary to implement the following solutions: mobilize investment capital for infrastructure works from the private sector; investment in the construction of infrastructure works shall be carried out through the form of public bidding, ensuring transparency and efficiency; need to implement project investment in the form of public-private partnership (PPP) to develop infrastructure; exploiting and using infrastructure assets synchronously, avoiding wasteful and inefficient investment capital, etc.

*Fourthly*, increase capital support and promote research and application of science and technology in agriculture; renewing the State's management mechanism on science and technology, creating a driving force for the development of science and technology in agriculture and rural areas.

Although there has been a policy on incentives to attract investment for the development of high-tech agriculture, the amount of investment capital in this field is still modest. Therefore, it is necessary to have specific incentives to diversify capital sources, and at the same time consider expanding lending conditions, loan terms and loans for investment projects. In particular, it is necessary to promote the role of the State through funding to support investment in infrastructure and equipment for science and technology organizations, businesses, agricultural zones and industrial agricultural zones. high technology, forming a number of typical hi-tech agricultural models.

Promote international and domestic cooperation in scientific research and high technology transfer in agriculture; promote close links between farmers, businesses and organizations in the implementation of value chains of agricultural production. Increase the proportion of investment in scientific and technological activities in the field of agriculture.

For ministries and central branches, it is necessary to synchronously complete innovation mechanisms and policies to promote scientific and technological activities in agriculture and rural areas; including specific policies for high-tech agriculture. Review and transform the operating mechanism of public agricultural science and technology organizations into an autonomous and self-responsible mechanism. Research funding for these organizations should not be allocated annually according to the plan, but should be built into a fund managed by representatives of farmers and entrepreneurs. For localities, it is necessary to plan the local network of public agricultural science

and technology organizations in the direction of compactness and efficiency. Create all favorable conditions for agricultural science and technology enterprises to enjoy maximum incentives and support when investing in research and development, participating in large-scale production linkages, forming raw material areas, including consumption of output products, application of technology, especially high-tech application in agriculture.

*Fifth*, focus on training high-quality human resources for agriculture and rural areas

To develop a hi-tech agricultural model, the necessary factors are capital and technology. However, using that factor effectively or not depends on people - quality human resources. As an agricultural country with many advantages from tropical products, to turn that potential into reality, it is necessary to invest in the process of training high-quality human resources capable of mastering advanced technologies, Effective application in production is the decisive factor.

Human resource training needs a drastic change in both training content, models, programs and methods. The training content needs to equip learners with basic skills and knowledge so that employees can have creative thinking in an interdisciplinary nature, adapt to the changes of the labor market, and meet job requirements, avoiding the risk of job loss when the market has the participation of a free labor force in ASEAN and the trend of automation in the application of scientific and technological achievements to agricultural production. The State needs to have programs to support employment, career orientation for rural youth, and at the same time assist businesses in planning medium- and long-term recruitment and employment strategies in rural areas. Improving the quality of human resources in agriculture requires the participation of the State, businesses, training institutions and people.

*Sixth*, strengthen support for market information and market expansion, build brands of agricultural products.

It is necessary to step up the building of a database on high technology in agriculture; create favorable conditions for organizations and individuals to access, use and exchange information on technology application in agriculture; organize and participate in national and international high-tech agricultural fairs and exhibitions.

Subjects implementing high-tech agricultural development are farmers and enterprises. Therefore, in order to develop hi-tech agriculture, it is necessary to raise the awareness of people and businesses about hi-tech agriculture. On the basis of the correct awareness of high-tech agricultural development, farmers and businesses will have appropriate action directions. Strengthen propaganda, dissemination and introduction on the mass media and the internet so that people can access information on hi-tech application achievements, hi-tech development models and products High-tech agriculture.

## **5. CONCLUSION**

Agriculture in Vietnam is entering the stage of in-depth development on a large scale. That requires the agricultural industry to have a major revolution in order to completely change the old production method. Therefore, the development of high-tech agriculture is an urgent requirement, the key to successfully implementing the restructuring of Vietnam's agriculture in the direction of increasing added value and sustainable development in the context of integration. increasingly international. Developing hi-tech agriculture and renewing science and technology is considered as one of the key and key solutions. Applying science and technology solves challenges in



agricultural development with the advantages of technologies such as: biotechnology, greenhouse technology, drip irrigation technology, sensor technology, automation, Internet of Things, etc, to help agricultural production save costs, increase productivity, lower costs and improve the quality of agricultural products, and protect the environment. On the other hand, high-tech agriculture helps farmers be proactive in production, overcome seasonality, reduce dependence on weather and climate, and meet market demand for quality agricultural products. The synchronous implementation of the above solutions will not only help Vietnam's agriculture develop in the right direction, but also increase the industry's share in the national economy./.

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# IMPACT OF INVESTMENT DECISIONS ON THE SUSTAINABLE GROWTH OF LISTED TELECOMMUNICATIONS TECHNOLOGY COMPANIES IN VIETNAM

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**Abstract:** *Telecommunications technology industry is a potential industry of Vietnam in recent times, customers realize the importance of digitalization in the trend of digital transformation, especially during the COVID-19 pandemic. In order to effectively exploit the potentials of Vietnam's telecommunications technology industry, this article uses the multivariate regression model to assess the impact of investment decisions on the sustainable growth rate of technology and telecommunications companies in Vietnam in the period 2017 - 2021. The results show that among the factors affecting the sustainable growth rate: inventory turnover, production capacity of fixed assets, return on equity, the profitability factor of equity has a major impact on the fluctuation of growth rate. Then, the author offers a number of solutions to help technology and telecommunications businesses improve their sustainable growth.*

**Keywords:** *Sustainable growth rate, investment decision, inventory turnover, fixed asset turnover ratio, return on equity.*

## 1. INTRODUCTION

The world has experienced more than 2 years with the impacts of the COVID-19 epidemic that have created a lot of changes and challenges for businesses in all fields. In that situation, Vietnam is still relatively high in investment in technology and infrastructure. In the strategic trend of 2025 - 2030, Vietnam is expected to be among the countries that apply early technology with a young population and a high percentage of people using smartphones. According to the national strategy to develop the digital economy and digital society to 2025, the orientation to 2030 shows the Government's drastic orientation in the process of comprehensive digital transformation of the country with 3 pillars. Main: Digital Government, Digital Economy and Digital Society. To achieve this goal, technology and telecommunications businesses are the core of digital transformation with responsibility for developing national digital transformation platforms and building the infrastructure of the digital economy.

Faced with this opportunity and challenge, listed companies in the technology and telecommunications industries need to clearly identify important financial decisions, especially investment decisions, and consider the impact of this decision on their financial performance. sustainable development of enterprises, thereby contributing to the process of digital transformation of the national economy.

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## 2. PREVIOUS RESEARCH STUDIES

### \* Investment decision and investment decision measurement criteria

According to Meng (2013) *An enterprise's investment decision is one of the fundamental decisions made by each enterprise to risk its funds in the hope of generating future streams of profits.*

According to Business Jargon (2020) *Investment decisions are decisions made by investors or senior managers regarding the amount of money used in investment opportunities. In other words, the choice of which asset class to invest by a company's fund is called an investment decision.*

According to Nguyen Thi Vu Khuyen (2020) *An enterprise's investment decision is a financial manager's decision to choose the type of assets that will be invested with the enterprise's funds in order to achieve the enterprise's goals.*

Thus, the investment decision of an enterprise is a decision that helps the manager choose the assets that will be invested in the operation of the enterprise.

To evaluate the investment decision of an enterprise, we need to pay attention to the following criteria:

**Table 1: Investment Decision Measurement Indicators**

No.	Financial indicators	References
1	Current assets to Total assets	Ngo Thu Giang (2015), Nguyen Thi Vu Khuyen (2020)
2	Fixed assets to Total assets	Nenu et al (2018)
3	Cash and cash equivalents to Total assets	Nenu et al (2018)
4	Accounts Receivable Turnover	Ngo Thu Giang (2015), Nguyen Thi Vu Khuyen (2020)
5	Inventory turnover	Ngo Thu Giang (2015), Nguyen Thi Vu Khuyen (2020)
6	Fixed asset turnover ratio	Ngo Thu Giang (2015), Nguyen Thi Vu Khuyen (2020)
7	Asset Turnover Ratio	Iqbal and Shah (2012), Ngo Thu Giang (2015), Nguyen Thi Vu Khuyen (2020), Khassawneh and Dasouqi (2016)
8	Return on Assets	Ahmad et al (2022), Iqbal and Shah (2012), Ngo Thu Giang (2015), Nguyen Thi Vu Khuyen (2020), Lee et al (2016), Khasawneh and Dasouqi (2016)
9	Return on equity	Damodaran (2014)

(Source: Compiled by the author)

### \* Sustainable growth and models to measure the possibility of sustainable growth

Analysis of the growth situation helps managers plan the future development of the business to have a basis for appropriate management decisions and at the same time allows managers to see the basic factors. impact on growth, causes of excessive growth, no growth or recession in each period, opportunities for sustainable growth of the unit, suggestions for solutions to improve the growth situation.

When analyzing the growth situation, analysts have recently focused on the Sustainable Growth Rate: “ *Sustainable growth rate is the maximum growth rate of assets in accordance with the growth rate, the total net cash flow growth and net cash flow from operating activities without depleting the financial resources of the business* ”.

Some of the previous authors have researched and offered models to measure the sustainable growth of enterprises as follows:

### **Higgins' sustainable growth model (1977, 2001, 2007)**

The concept of sustainable growth was developed by Robert C. Higgins in 1977 and includes four specific factors: dividend payout ratio, profit margin, total asset turnover ratio, and financial ratio. assets on equity.

$$SGR = \frac{RI}{NPAT} \times \frac{NBPT}{TO} \times \frac{TO}{NA} \times \frac{NA}{E}$$

In there:

NPAT: Profit after tax

NPBT: Net profit before tax

TO: Revenue

RI: retained earnings

E: Equity

NA: Net Assets

Higgins analyzed the change of growth rate from the source of growth, in which the important function of return on equity is the function of return on equity. Part of retained earnings, retained debt is invested in assets, which will help increase revenue, which will ultimately generate company profit growth.

### **Sustainable growth model of James C. Van- Horne**

VanHorne's growth rate model is a quantitative description of the change in earnings, sales; is a tool to check the consistency between revenue growth goals, operational efficiency, and financial goals.

VanHorne's growth model is as follows:

$$SGR = \frac{b (PBIT/TO) * (1 + D/E)}{(A/S) - (b (PBIT/TO) * (1 + D/E))}$$

In there:

D/E: Debt to Equity

A/S: Total assets for sale

PBIT: Profit before interest and taxes

b: Rate of retained earnings

Thus, in essence, his sustainable growth rate is also analyzed based on four factors such as the Higgins model and the assumptions of not adding new equity, but he emphasizes the financial goal. main.

### **Sustainable growth model of Rui Huang & Guiying Liu (2009)**

Huang & Liu's sustainable growth model is inherited and developed from two models of Higgin and Vanhome. This model analyzed the impact of financial leverage (using debt), business leverage (using fixed costs). Like Higgins, the growth rate of articles is based on four factors:

$$SG = ((PBIT / TO) * (1 / DFL) (1-T)) * ((VC / TA) + (FC / TA)) * (1 / DOL)) * (A / Eq) * (1 - (Go back))$$

In there:

VC: Total variable cost

DFL: Level of financial leverage

TA: Total assets

DOL: Level of Operating Leverage

FC: Total fixed cost

Div / E: Dividend payout ratio

A/EQ: Equity Ratio

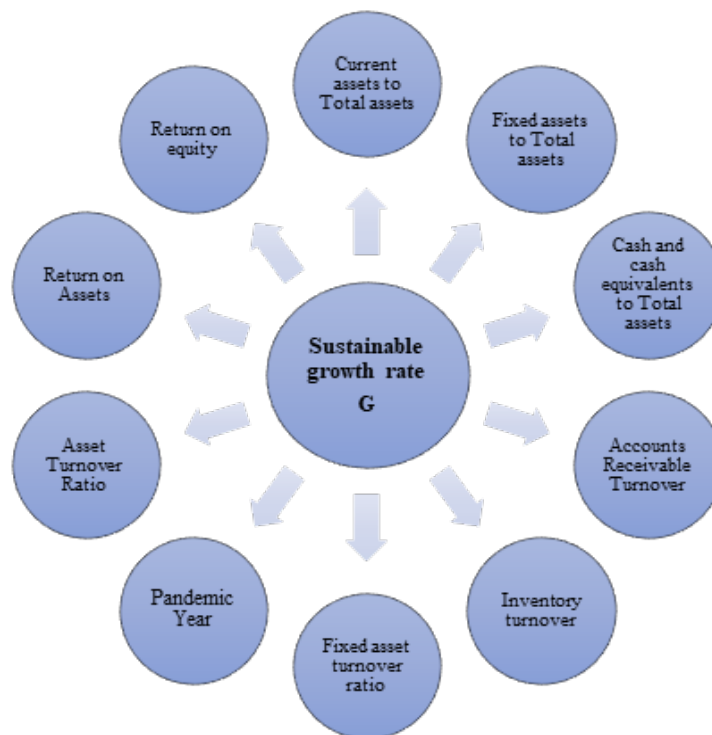
T: Tax rate

The model has disadvantages when it applies to business situations such as intensely competitive bull markets, rapidly expanding firm size, rapidly increasing investment in fixed assets and debt.

### 3. PROPOSED MODEL

In this study, the author uses STATA20 software to perform a regression model to determine the influence of investment decisions on the sustainable growth of Technology and Telecommunication enterprises in Vietnam. Secondary data is collected through financial statements of 21 listed companies in the Technology and Telecommunications industry for the period 2014 – 2021 (8 \* 21 = 168 observations), then Microsoft Excel software is used to analyze the data, calculate the variables in the model and finally determine the Sustainable Growth Rate (G).

\* *Research models*



**Figure 1: Research model of the influence of investment decisions on sustainable growth rate**

*Source: Compiled by the author*

The variables in the model are selected and synthesized based on the rationality according to theoretical inference, based on previous research and personal views to propose independent variables and synthesize according to the model below this:

**Table 2: Summary of research variables in the econometric model to measure the influence of investment decisions on the indicator Sustainable growth rate**

STT	Variable name	Symbol	Formula
Dependent variable			
01	Sustainable growth rate	G	$G = \text{Asset-to-equity ratio} \times \text{Working capital efficiency} \times \text{Profitability ratio after tax} \times \text{Ratio of retained earnings in total distributed profit.}$
Independent variables			
01	Current assets to Total assets	X1	$\frac{\text{Current assets}}{\text{Total assets}}$
02	Fixed assets to Total assets	X2	$\frac{\text{Fixed assets}}{\text{Total assets}}$
03	Cash and cash equivalents to Total assets	X3	$\frac{\text{Cash and cash equivalents}}{\text{Total assets}}$
04	Accounts Receivable Turnover	X4	$\frac{\text{Net Sales}}{\text{Average Accounts Receivable}}$
05	Inventory turnover	X5	$\frac{\text{Cost of goods sold}}{\text{Average Inventories}}$
06	Fixed asset turnover ratio	X6	$\frac{\text{Net sales}}{\text{Average Fixed Assets}}$
07	Asset Turnover Ratio	X7	$\frac{\text{Net sales}}{\text{Average Total Assets}}$
08	Return on Assets	X8	$\frac{\text{Net income}}{\text{Average Total Assets}}$
09	Return on equity	X9	$\frac{\text{Net income}}{\text{Average Shareholder's Equity}}$
10	Pandemic Year	X10	Equal to 1 for the years 2020 and 2021, and 0 for the remaining years.

Source: Compiled by the author

*\* Research hypothesis*

Based on related theories, author proposes the following research hypotheses:

*The current assets to Total assets (X1)* represents the level of use of short-term assets such as cash, receivables, and inventory in the enterprise, which is an indicator of the liquidity of the

enterprise. The more liquid assets of the company, the higher the liquidity of the business, but the large proportion of short-term assets shows that the company's financial position is not good, reflecting short-term assets being stagnant. Stagnation, cannot be converted into cash, may cause loss of market share and competitiveness of enterprises. Thus, the variable X1 is expected to have a positive/reverse effect with the Sustainable Growth Rate.

*The Fixed assets to Total assets (X2)* represents the use of fixed assets in total costs of the enterprise. According to Rui Huang and Guiying Liu, an increase in fixed costs leads to an increase in growth rate. Therefore, the variable X2 is expected to have a positive effect on the sustainable growth rate.

*The Cash and cash equivalents to Total assets (X3)* represents the use of cash and highly liquid items in the enterprise. The more cash and cash equivalents of the company, the more solvency it is, the higher is the business' survival guarantee. But a large amount of cash and cash equivalents will reduce the ability to invest and spend large amounts on production and business activities. Thus, variable X3 is expected to have a positive/reverse effect with the Sustainable Growth Rate.

*The Accounts Receivable Turnover (X4)* examines how efficiently a business collects receivables and accounts receivable. If the turnover ratio is low, it means that the business is being misappropriated by its customers, but it shows that the business knows how to flexibly apply sales policies, helping the business increase revenue. The variable X4 is expected to have a positive/reverse effect with the Sustainable Growth Rate.

*The Inventory turnover (X5)* shows the average number of times inventory was turned over during the period. If a low turnover indicates a higher inventory to total assets, a company holding a lot of inventory indicates a waste of capital, and conversely, a high turnover indicates an efficient execution of consumption. Product consumption, increase revenue, and promote sustainable growth. The variable X4 is expected to have a positive impact on the growth rate.

*The fixed asset turnover ratio (X6) and The asset turnover ratio (X7)*, the more efficient the use of assets of the enterprise in production and business activities and the ability to expand production. If the enterprise can mobilize the maximum operating capacity of the machinery and equipment, realize fast capital recovery, the ability to grow revenue will create conditions for the business to grow sustainably. So, variables X6, X7 are expected to have a positive impact with Sustainable Growth Rate.

*The Return on Assets (X8)* measures the amount of profit earned per dollar of invested assets. The profitability of TTS helps investors have a clearer view of the efficiency of the enterprise's asset use, if this ratio is high and stable for a long time, it is a positive sign that the company use assets more efficiently and optimize available resources. Variable X8 is expected to have a positive impact with Sustainable Growth Rate.

*The Return on equity (X9)* measures a company's ability to generate profits using its equity resources. If the return on equity is low, it shows that the capital is used inefficiently, the income is not enough to cover the costs, leading to the business not having profits to pay shareholders, as well as reproducing for the company subsequent periods. Variable X9 is expected to have a positive impact on Sustainable Growth Rate.

*The Pandemic Year (X10)* sustainable growth is only possible in the condition that the economy can ensure economic sustainability, in which macroeconomic stability is the focus, and social sustainability and environmentally sustainable. In the years affected by the COVID-19 pandemic, businesses are affected by many different aspects. Along with the decrease in demand, businesses suffered from a decrease in cash flow. In response to the pandemic, many businesses have adopted digital platforms to adapt to negative shocks, of which a few have invested in digital solutions or refreshed/upgraded product portfolios. Thus, although the epidemic affects the operations of businesses, in fact, with the maximum promotion of information technology application in all activities, information technology and telecommunications businesses accelerated development. Therefore, the hypothesis about the direction of impact of this factor on the sustainable growth rate  $G$  is: the impact of the COVID-19 epidemic has no effect on the sustainable growth rate.

## 4. RESEARCH RESULTS

### 4.1. Development status of listed technology and telecommunications enterprises

The field of information technology and telecommunications is in the Top 7 industries, the field is assessed to have the most potential in the next 3 years with the leading rate of 72.7%. The COVID-19 pandemic has accelerated the demand and wave of digital transformation and technology investment in many organizations and businesses across the country. This is both a challenge for businesses in the information technology and telecommunications industry, and creates a clear opportunity for the sustainable development of technology companies pioneering in providing solutions, digital transformation platforms, services and products. In particular, the trend of digital transformation may become stronger when customers realize the importance of digitalization after the COVID-19 epidemic such as: reducing costs, increasing efficiency...

In 2021, due to the need for digital transformation, the number of ICT (information technology, electronics and telecommunications) businesses will grow strongly. Vietnam currently has more than 64,000 digital technology enterprises, an increase of 5,600 enterprises compared to 2020 and has nearly 1,000 Vietnamese branded ICT products and services. Among them, there are 33 companies listed on HOSE, HNX and UPCOM. Within the scope of the study, the author studies 22 companies listed on Hanoi Stock Exchange, HNX and Ho Chi Minh City Stock Exchange HOSE.

**Table 1: Technology and telecommunications companies listed in Vietnam**

STT	Company's name	Code stock	Floor listing	Five listing
1	FPT Corporation	FPT	HOSE	2006
2	CMC Technology Group Joint Stock Company	CMG	HOSE	2010
3	SAM HOLDINGS JSC	SAM	HOSE	2000
4	Saigon Telecommunications Technology Joint Stock Company	SGT	HOSE	2008
5	Electronics - Telecommunications Technology Development Investment Joint Stock Company	ELC	HOSE	2010
6	Postal Equipment Joint Stock Company	POT	HNX	2006
7	Sieu Thanh Joint Stock Company	ST8	HOSE	2007
8	Sara Vietnam Joint Stock Company	SRA	HNX	2008



9	Vien Lien Joint Stock Company	UNI	HNX	2006
10	Tien Phong Technology Joint Stock Company	ITD	HOSE	2011
11	Saigon Vien Dong Technology Joint Stock Company	SVT	HOSE	2011
12	COKYVINA JSC	CKV	HNX	2010
13	Fine Arts and Communication Joint Stock Company	ADC	HNX	2010
14	Sametel JSC	SMT	HNX	2010
15	VTC Telecommunications Joint Stock Company	VTC	HNX	2003
16	Communication JSC No. 1	ONE	HNX	2008
17	Telecommunication Technical Services Joint Stock Company	TST	HNX	2007
18	Van Lang Technology Development and Investment Joint Stock Company	VLA	HNX	2010
19	KASATI JSC	KST	HNX	2010
20	Tien Trung Technology and Construction Investment Joint Stock Company	TTZ	HNX	2012
21	VITECO Telecommunication Technology Joint Stock Company	VIE	HNX	2011

(Source: Compiled by the author)

## 4.2 Analysis results

### \* Descriptive statistical analysis

The descriptive statistics include: Obs (Observation) – number of observations; Mean Std. - Average number; Dev. (Standard Deviation) – Standard Deviation; Min – Minimum value; Max – The maximum value is shown in the following table of results:

**Table 4: Descriptive statistics of research variables**

. summarize G X1 X2 X3 X4 X5 X6 X7 X8 X9 X10

Variable	Obs	Mean	Std. Dev.	Min	Max
G	168	.0376307	.2975528	-.9590335	3.504505
X1	168	.6651559	.2234204	.013	.999
X2	168	.3349459	.2234098	.001	.987
X3	168	.1164062	.0754473	.0017086	.4343005
X4	168	20.72595	205.3308	.04	2658.38
X5	163	24.83482	135.6929	.01	1405.115
X6	159	94.99394	660.8818	.0028204	8206.255
X7	168	.86175	.6970262	.002	4.191
X8	168	.050856	.0676406	-.2077692	.6004785
X9	168	.0121381	.1614833	-.3438	.778
X10	168	.25	.4343072	0	1

Source: Compiled by the author

\* *Correlation analysis***Table 5: Correlation between research variables**

	G	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10
G	1										
X1	0.029	1									
X2	-0.028	-1.000	1								
X3	-0.146	0.406	-0.40	1							
X4	0.011	-0.143	0.14	-0.11	1						
X5	0.064	-0.277	0.277	-0.15	0.166	1					
X6	-0.022	0.141	-0.141	0.051	0.033	-0.000	1				
X7	0.166	0.313	-0.31	0.493	-0.02	-0.00	0.05	1			
X8	0.228	0.028	-0.02	0.044	0.166	0.023	-0.03	0.063	1		
X9	0.518	0.019	-0.01	-0.02	0.095	0.116	0.02	0.211	0.23	1	
X10	0.007	-0.066	0.066	-0.02	0.145	-0.04	-0.06	0.019	-0.07	0.25	1

Source: Compiled by the author

The results of the correlation analysis between the variables in the model shown in the table show that the dependent variable G has the strongest correlation with The fixed asset turnover ratio (X6) with the correlation coefficient value at - 0.085 . Indicators: X2 (The fixed assets to Total assets), X4 (The Accounts Receivable Turnover), X5 (The Inventory turnover), X7 (The asset turnover ratio), X9 (The return on equity), X10 (Pandemic Year) are positive with the growth rate G. Besides, the growth rate G is negatively correlated with the indicators X1 (The current assets to Total assets), X3 (Cash and cash equivalents to Total assets), X6 (The fixed asset turnover ratio), X8 (The return on Assets).

\* *Analysis of the influence of factors on the indicator G*

- Selecting a suitable model: To select a suitable model to analyze the influence of factors on criterion G, the researcher performs the following steps:

Using regression methods FEM (Fixed Effect Model) and REM (Random Effect Model) with the assumption:

Ho: REM is a more appropriate model than FEM

H1: FEM is a more appropriate model than REM

	Coefficients			
	(b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
X1	-81.38996	-78.1322	-3.257759	.
X2	-81.9036	-78.2046	-3.698995	.
X3	-.5621527	-1.015123	.4529699	.0621292
X4	-.0252259	-.0000806	-.0251453	.0072254
X6	-.0000216	-.000019	-2.63e-06	.
X7	.2133498	.0733705	.1399793	.036613
X8	.0976548	.5047798	-.407125	.2115734
X9	.9058279	.9141439	-.0083161	.
X10	-.048468	-.080427	.0319591	.

b = consistent under Ho and Ha; obtained from xtreg  
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(8) = (b-B)' [(V\_b-V\_B)^(-1)] (b-B)  
= 30.30  
Prob>chi2 = 0.0002  
(V\_b-V\_B is not positive definite)

- To test whether the FEM or REM model is a more suitable model in studying the factors affecting the profitability of listed plastic enterprises, the author uses the Hausman-test to test the model. Figure with dependent variable to clarify the above problem. The above results show that the P-value of the model is  $0.0002 < 0.05$ , with 95% confidence, the use of fixed effects model (FEM) is more suitable and explains better than the effect model. Randomized action (REM) on the influence of factors on sustainable growth rate G.

Testing the model's defects: multicollinearity, variable variance and autocorrelation obtained the following results:

**\* Check for multicollinearity**

The author performs multicollinearity test by VIF test and the results are obtained:

```
. vif ,uncentered // kiểm tra đa cộng tuyến
```

Variable	VIF	1/VIF
X7	7.62	0.131217
X1	6.04	0.165571
X3	5.18	0.193127
X4	4.45	0.224865
X2	2.20	0.455441
X8	1.75	0.571541
X10	1.46	0.687031
X9	1.23	0.814757
X5	1.22	0.817260
X6	1.06	0.944553
Mean VIF	3.22	

With the VIF = 3.22 value less than 10 and the VIF value of the variables all less than 10, it is concluded that there is no serious multicollinearity phenomenon.

**\* Check the variance of the error according to the Lagrange multiplier method:**

```
. xttest3 // kiểm tra phương sai sai số thay đổi
```

```
Modified Wald test for groupwise heteroskedasticity  
in fixed effect regression model
```

```
H0: sigma(i)^2 = sigma^2 for all i
```

```
chi2 (21) = 1435.40  
Prob>chi2 = 0.0000
```

Notice that  $\text{Prob}>\chi^2 = 0.0000 < 0.05$ . Thus, the model has the phenomenon of variable variance.

**\* Check the phenomenon of autocorrelation**

Test the phenomenon of autocorrelation using Lagrange-Multiplier criteria with a pair of test hypotheses:

H0: The model has no serial correlation.

H1: The model has series correlation.

```
. xtserial G X1 X2 X3 X4 X5 X6 X7 X8 X9 X10 // kiểm định tự tương quan

Wooldridge test for autocorrelation in panel data
H0: no first-order autocorrelation
    F( 1,      18) =      17.809
    Prob > F =      0.0005
```

Notice that  $\text{Prob} > \chi^2 = 0.0005 < 0.05$ . Thus, the model has autocorrelation.

- Correction of defects in the model: Because there are defects in the model, the obtained estimates will no longer be reliable. Using PCSE model regression with hetonly correlation (ar1) selection to overcome defects, the results are given in the table below:

**Table 6: Table of results of measurement econometric model analysis**  
**The influence of factors on sustainable growth rate**

	(1)	(2)	(3)
VARIABLES	FEM	REM	Hieuchinh
X1	-81.39	-48.26	-53.37
X2	-81.90	-48.22	-53.33
X3	-0.562*	-0.784**	-0.790**
X4	-0.0252***	-0.0189***	-0.0185**
X5	0.000108	1.13e-05	-4.59e-07
X6	-2.16e-05	-2.29e-05	-2.26e-05*
X7	0.213***	0.159***	0.157***
X8	0.0977	0.518*	0.591
X9	0.906***	1.016***	1.019***
X10	-0.0485	-0.0606	-0.0612
Constant	81.58	48.30	53.41
Observations	154	154	154
R-squared	0.449		0.405
Number of name	21	21	21

The significance level of each factor

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

The results of the table above show that the regression estimation results of the factors affecting the sustainable growth rate (G) of listed technology and telecommunications enterprises have strong standard error model equations. With Wald test (or F - test) to test the fit of the model for a P-value of 0.0000, so the hypothesis H0 (that the model is not suitable) is rejected. It is concluded that the regression model is suitable for all significance levels.

This regression model has a good fit of 40,5%. In other words, the adjusted FEM model explains 40,5% of the variation in the Sustainable Growth Rate (G).

From the results of the corrected FEM model, it shows that:

There are 4 factors that are statistically significant to the sustainable growth rate, which are: Cash and cash equivalents to Total assets (X3) at 5% significance level, Accounts Receivable Turnover (X4) at 5% significance level, Asset Turnover Ratio (X7) at the 1% significance level,

Return on equity (X9) at the 1% significance level. The impact of the Fixed asset turnover ratio (X6) is considered insignificant.

We have a regression model showing the influence of factors on criterion G as follows:

$$G = 81.58 - 0.79X3 - 0.0185X4 + 0.157X7 + 1.019X9$$

***The Cash and cash equivalents to Total assets (X3):*** has a negative relationship with the sustainable growth rate of the enterprise, specifically when the proportion of cash and cash equivalents decreases by 1%, the sustainable growth rate will increase by 0.79%. With the appearance of smart home and smart city, the demand for mobile services of Vietnamese consumers is increasing strongly, placing demands on information technology and telecommunications businesses continuously. Invest in technological innovation, provide equipment, infrastructure and telecommunications services at home and abroad, perfect the automatic system, improve the application of artificial intelligence (AI)... enhance growth. On the contrary, maintaining a large proportion of cash and cash equivalents will reduce the ability to invest and spend large amounts on production and business activities, thereby reducing the possibility of sustainable growth.

***The Accounts Receivable turnover (X4)*** has a negative relationship with the sustainable growth rate of the business, specifically, when the receivables turnover decreases by 1%, the sustainable growth rate increases by 0.0185%. If the turnover ratio is low, it means that the business is being misappropriated by its customers, but it shows that the business knows how to flexibly apply sales policies, helping the business increase revenue. In the context of the telecommunications market witnessing the races of enterprises to dominate the market, conducting research and deploying products and services in order to prove the scientific and technological level of enterprises, the flexible Active in sales policy will help businesses attract new and potential customers.

***In terms of The Asset Turnover Ratio (X7):*** there is a positive relationship with the sustainable growth rate of enterprises, when the Asset Turnover Ratio increases by 1%, the sustainable growth rate increases by 0.157%. In fact, an increase in a company's efficient use of assets as measured by asset turnover increases the revenue generated for each asset turnover. The sales increase in this way leading to a sustained increase in the company's growth rate. Many previous empirical studies have examined the relationship between asset efficiency and firm growth. The researchers have measured the efficiency of assets by asset turnover and the results show that total asset turnover has a positive effect on total asset turnover, and the results show that total asset turnover has a positive effect on sustainable growth rate. (Mumu et al. (2019), Pratama (2019), Rahim (2017).

***In terms of The return on equity (X9):*** there is a positive relationship with the sustainable growth rate of the enterprise, specifically, when the Profitability of equity increases by 1%, the sustainable growth rate increases by 1.019%. Among the factors that affect the sustainable growth rate of technology and telecommunications businesses, the factor of return on equity has the main impact. This coincides with the experimental results of Dalia El Madbouly (2022), (Hafid 2016; Rahim 2017; Mukherjee and Sen 2017, 2018) showing that return on equity has a significant positive relationship with sustainable growth rate.

In addition, the results from this research model do not show the relationship between The sustainable growth rate and The current assets to total assets, The fixed assets to total assets, The return on assets, The pandemic year.

## 5. CONCLUSION

Through testing and measuring the influence of factors on the sustainable growth rate indicator G, the author obtains the following results about the influence of factors on the sustainable growth rate G: The Cash and cash equivalents to Total assets, The Accounts Receivable turnover has a negative with sustainable growth rate; The Asset Turnover Ratio, The return on equity has a positive relationship with sustainable growth rate. This result is consistent with the conclusions of previous studies, theoretically and practically in technology and telecommunications enterprises.

Thus, it can be seen that the increase in the profitability of equity will increase the sustainable growth rate. This requires businesses to improve their capital mobilization, use of financial leverage, and ensure increased revenue and profit for businesses. Through the study of econometric models, increasing the Asset Turnover Ratio will bring positive effects to the growth rate of the telecommunications industry. Therefore, the author proposes solutions to use assets at telecommunications technology enterprises as follows: increasing investment in assets in terms of: investment in new technology, investment in new inventions updated with technology development requirements to ensure the increase of sustainable growth rate. Enterprises reduce the proportion of investment into cash and cash equivalents to carry out investment work and decrease the Accounts Receivable turnover to attract more customers.

The COVID-19 epidemic has negatively affected most business fields, production stagnation, supply chain disruptions, high freight rates, etc. In that context, the Information Technology and telecommunications has quickly grasped to rise up and develop sustainably. In the coming time, the trend of digital transformation will help the Technology and telecommunications industry face strong long-term growth opportunities.

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# DEVELOPING BUSINESS MODELS IN UNIVERSITIES IN VIETNAM

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**Abstract:** *In the current context, competition and requirements for public universities are increasing. The development of business model in universities is one of the important solutions. In Vietnam, this activity of universities still has many limitations and obstacles. The article clarifies the reality of developing business model in universities in Vietnam and draws a number of recommendations and proposals to promote the business model in public universities.*

**Keywords:** *Development, business models, university.*

## 1. INTRODUCTION

Universities in developed countries have tended to become increasingly business-oriented universities over the past few decades. Since the first decade of the 21<sup>st</sup> century, when the world economy entered the “digital era” with the advantage of the 4.0 revolution, universities have had a stronger shift towards innovation and creative start-up. University-affiliated enterprises have connected, invested to deploy services, apply and commercialize scientific research results, franchise inventions in science and technology. The University’s Charter promulgated under the Prime Minister’s Decision No. 70/2014/QĐ-TTg dated December 10, 2014 clearly stipulates business and service establishments in the university’s organizational structure (Article 1. 19) “Organized in the form of an enterprise or a service center to provide information and consulting services; disseminating and applying scientific and technological knowledge into practice; student services; services to serve the community and meet the needs of society.” The thought of enterprise development in universities has also been expressed in the Government’s Resolution No. 19-2017/NQ-CP: “ Establishing mechanisms and policies to create favorable conditions for the establishment of multi-owned enterprises in universities in order to carry out application activities, commercialize research results and provide public non-business services. The Law on Amending and Supplementing a Number of Articles of the Law on Higher Education promulgated in 2018 stipulates that in the organizational structure of higher education institutions, there are research institutes, centers, service establishments, enterprises, etc. Enterprises, business establishments and other units according to the development needs of the university. Over the past time, enterprises under the university have become an important bridge contributing to put applied research into practice. life. However, besides the achieved results, the activities of

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public Scientific and Technological organizations still face many barriers that need to be resolved. In fact, the Law on Higher Education 2019, Decree 115 of the Government on Scientific and Technological enterprises mentioned this issue with great encouragement. This is the basis and foundation for universities to be better in transferring Scientific and Technological achievements, economic development, and supporting and serving learners. The establishment of enterprises, companies or experimental production facilities to develop commercialization of Scientific and Technological achievements and transfer technology and research results of lecturers and students is in line with current reality. Because in addition to creating a great source of revenue, directly for the university, it also helps to build the brand name of Scientific and Technological products from the university to the market. Every year, a variety of scientific research projects at all levels are deployed from universities, creating many new technical technologies, which are essential for real life and production. With the strategic orientation of establishing an enterprise system in the University, it is aimed at mobilizing the resources of the State, organizations, individuals, domestic and foreign enterprises to participate in the research, incubation and commercial process of the school's science and technology products. Scientists become the subject of capital contribution, intelligence and effort to build businesses. Enterprises are formed based on three basic needs of the universities: (i) The desire for the company to be a bridge for the university to connect with localities and businesses; (ii) Provide services to students, researchers and faculties in scientific research; (iii) Creating more revenue for the university... Especially in the context of autonomy and increasingly fierce competition among universities, the establishment of enterprises in universities to improve competitiveness and branding is essential.

**2. BUSINESS MODEL IN UNIVERSITIES IN THE WORLD**

According to Yokoyama (2006), terms such as entrepreneurship development and “entrepreneurship” in the context of universities are not necessarily understood with the idea of profit taking and risk taking, or commercial. Instead, Yokoyama’s research focuses on the attitudes of universities in trying to be autonomous in terms of technology transfer, finance, or enhancing the responsibility of universities to society. Generally speaking, business model development in universities leads to a change in the management and operating mechanism. Therefore, the 5 forms of development from low to high of the university model proposed by Yokoyama can be considered as a direct result of the process of enterprise development and entrepreneurship in universities.

**Table 1. University models and business development**

Level	Form	Main features
1	Sample pilot (Example: University of Tokyo)	<ul style="list-style-type: none"> <li>- Increase the University's self-determination</li> <li>- The birth of corporate culture</li> <li>- Revisiting governance, management, leadership and internal funding in the University</li> <li>- Set up a strategic plan</li> <li>- Emphasize the importance of increasing accountability in the University</li> </ul>

2	Business-oriented university (Waseda University)	<ul style="list-style-type: none"> <li>- Business expansion</li> <li>- Market-oriented policy</li> <li>- Conflict between academic and business values</li> <li>- The birth of management spirit in activities</li> </ul>
3	Young business-oriented university (Nottingham Trent University)	<ul style="list-style-type: none"> <li>- Reliance on public finance</li> <li>- Self-identified as an entrepreneurial university</li> <li>- Contribute to the local economy</li> </ul>
4	Adaptive Enterprise Universities (University of Surrey)	<ul style="list-style-type: none"> <li>Institutions of Self-Determination</li> <li>- Significant income from external funding</li> <li>- Governance structure and market-oriented management structure</li> <li>- Integration of corporate, business and academic structures</li> </ul>
5	Ideal Form	<ul style="list-style-type: none"> <li>- Full autonomy and self-reliance</li> <li>- Share risks and responsibilities among actors involved in business activities clearly</li> <li>- Integration of business, corporate and academic culture; management culture and coordination in an organization without conflict</li> </ul>

*Source: Yokoyama (2006)*

The results of these activities and transformations increase the autonomy and self-responsibility of the university, which is a solid basis for the success of advanced university governance. Universities with advanced organizational models and management methods always aim to satisfy the needs of learners and stakeholders through the highly effective implementation of all activities associated with innovation. The results of research and scholarly survey on the link between business development in universities and industries and the external environment of Yusof and Jain (2010) also show the bridging role of universities. The technology transfer office in the university plays an important role. Universities operate under an advanced University Governance model, and the efficient operation of these offices promotes the formation of new businesses. The process of enterprise formation in the university along with socio-economic development, industries and business community will have a spillover effect and promote the improvement of the external environment. Business development in the university needs a suitable external environment - the ecosystem (including the creative network). In contrast, an innovation-supporting ecosystem around the university strongly promotes the university's transition to an advanced University Governance model. This trend is also pointed out by Boffo and Cocorullo (2019) in research results published in March 2019 on Higher Education Forum. From theoretical research and surveys at Italian universities and businesses, these authors suggest that in addition to the two traditional tasks of human resource education and training, scientific research and a third task as mentioned above, the universities now have one more task, called the "Fourth Mission". This task involves forming Spin-offs companies and developing academic businesses within the University. The university's fourth mission is a series of multifaceted activities undertaken to strengthen the relationship between academia and society primarily through the formation of businesses. Previously, this role was mainly concerned with granting patents to outside individuals and businesses. But today universities are increasingly focused on creating and promoting

activities that form businesses from business ideas, technology derived from academic research, called Spin-off (Boffo and Cocorullo, 2019). These are the tools to respond to societal pressures for accountability and access to the economy through the sharing of academic research results. In order to fulfill this fourth mission, a modern university with an advanced university governance model first needs to have an entrepreneurial spirit, a desire and ability to cooperate with businesses. After that, it is necessary to change the organizational method, pay more attention to management and administration based on the efficiency of activities. Along with such “business” activities, the establishment of businesses and the effective operation of support service units such as the office of technology transfer will promote the transfer of technology and knowledge from universities to businesses (Dinh Van Toan et al., 2017). Research and survey results of Yusof and Jain’s (2010) on the link between corporate development in universities and industries and the external environment also shows that the bridging role of technology transfer offices in universities is very important. Universities operate under an advanced university governance model, and the efficient functioning of these offices promotes the formation of new businesses. The process of enterprise formation in the university along with socio-economic development, industries and business community will have a spillover effect and promote the improvement of the external environment. Business development in the university needs a suitable external environment - the ecosystem. In contrast, an innovation-supportive ecosystem around the university strongly promotes the transition to the university’s advanced model of university governance. On the other hand, enterprises in universities are often established from startups of medium and small scale to deal with high risks and associated with innovation and creativity. This is an inherent feature because universities are the ideal environment for startup development associated with innovation and creativity (Dinh Van Toan, 2017). Thus, by performing the fourth task, universities in the current period more clearly show their very important role in knowledge transfer, technology transfer, contributing to the commercialization of scientific research results. In addition, the development of enterprises from universities (Spin-offs) is also being considered as the center of discussions when talking about the innovation capacity of national economies. Research results of Boffo and Cocorullo (2019) on 25 universities in Italy and over a thousand Spin-offs enterprises show that there are two models associated with two main trends when forming businesses: attached model - based on academic research results and separate models - tends to prioritize the entrepreneurial path. This study also shows that the percentage of business founders from universities is the researchers, accounting for 52%, compared to professors, accounting for only 32%.

### **3. STATUS OF BUSINESS MODEL DEVELOPMENT IN UNIVERSITIES IN VIETNAM**

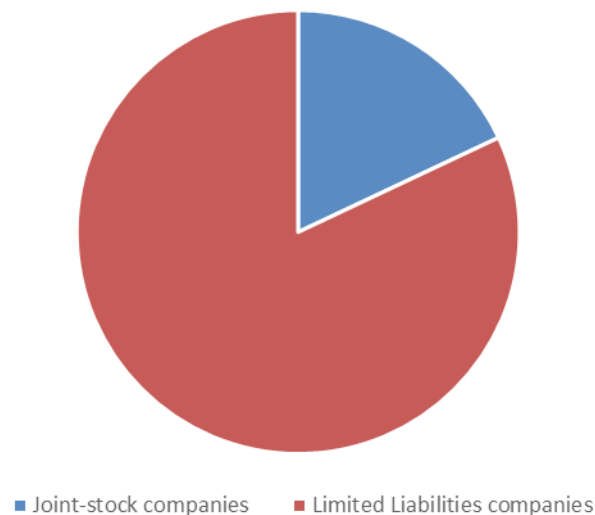
Establishing a business and promoting the formation of businesses is one of the characteristics of universities in the context. Through the activities of enterprises and the extension of cooperation, universities can use the resources of enterprises and cooperation to develop the capabilities of knowledge transfer, transfer of research results for organizations and societies. From there, universities can better promote training activities, scientific research and community service. This makes the university more and more responsive to the needs of its stakeholders. Pioneering in implementing this policy and promoting the formation of startups since the late 1980s, Hanoi University of Science and Technology has made efforts to establish Polytechnic Company (BK-

Holdings). BK-Holdings has changed the model to adapt to the condition of being in a public university. The business model was transformed into a One Member Limited Company. Accordingly, BK Holdings as a parent company (founded, decided on the chairman of the Members' Council and appointed to participate in management by the university) makes investments and contributes capital to subsidiaries and other companies. associates (under the model of joint stock or limited liability). The system of businesses and organizations operating under the business model in BK Holdings currently (in 2019) includes: 6 member companies, 2 training schools and 1 international training cooperation program. BK Holdings always plays the role of a bridge in cooperation, calling for investment from businesses and individuals for scientists and universities when there is a need for product development, commercialization or initial research investment. technology leader. In particular, BK Holdings directly invests in infrastructure, technical facilities and training to form a successful startup ecosystem in Vietnam through innovative startup support programs and projects. Innovative innovation with a network of consultants, guides, startup and incubator spaces. A special feature is that Hanoi University of Science and Technology or its units and individuals can contribute capital to these businesses by their own "innovations, technological processes and intellectual property". Business results of BK Holdings have steadily increased every year since 2009 in terms of revenue, dividends to capital contributors and revenue contributions to the school from profits. The existing model of "enterprise complex" in universities like BK-Holding can be considered as a symbol of the persistent struggle of scientists and a symbol of entrepreneurship in higher education institutions in Vietnam in the last decades of the twentieth century.

Vietnam National University, Hanoi (VNU) and its member units have established and also dissolved a number of enterprises in the period from 2000 to 2019. The two affiliated companies are members of the member universities. These include: (i) Natural Science Company Limited under the University of Natural Sciences established on May 20, 2004 based on Decree No. 03/2000 ND-CP dated March 2, 2000 of Prime Minister. The company's mission is to act as a bridge between science and technology and social life, to support scientists and businesses in the development of research, application and transfer and commercialization of scientific research results. ; (ii) Science and Tourism Service One Member Limited Liability Company was established and operated since 2010. The company is the first business unit directly under the University of Social Sciences and Humanities - VNU, the independent branch under the Law on Enterprises; (ii) In 2015 and 2017, VNU established affiliated businesses, respectively: Knowledge Transfer Company (under VNU) and IMBT Microbiology Technology Company (under Institute of Microbiology and Technolog). These companies are all formed under the joint stock model. However, in 2017 and 2019, VNU decided to dissolve the above two enterprises, respectively. It is noteworthy that the difficulties leading to these decisions do not stem from the issue of product and service consumption (in fact, the IMBT Company is still operating effectively due to the large market demand) but on the legal status, the representative of the capital contribution, the issue of land contribution, the factory assigned by the Government. In addition, there are problems arising from conflicts of interest between the representative of the owner and the representative of the management and operation of these enterprises in the legal regulations on civil servants. In terms of finance, another main reason is the difficulty in separating the money source and pure business activities from the research and training support activities of VNU and the unit. In practice, IMBT Company

uses and exploits factories, land and human resources at the same time in both these types of activities. However, an institution and governance principles to manage and monitor shared resources, financial issues as well as protect the interests of stakeholders have not been developed and implemented. In addition, many universities have established businesses such as: Ho Chi Minh City University of Technology with Ho Chi Minh City Science and Technology Joint Stock Company (in 2018), University of Medicine and Pharmacy with an extremely successful model of Medical and Pharmaceutical University Hospital, recently the University of Social Sciences and Humanities (VNU Ho Chi Minh City) with Van Khoa Science and Tourism Services Co., Ltd (in 2019) . In particular, there are many schools with a large number of established companies, with roles and responsibilities classified by specific segments such as: University of Food Industry Ho Chi Minh City currently has 4 companies: Production Co., Ltd. - Trading and Food Industry Services (FOODTECH), Accounting - Auditing Service Company, HUFIT Travel Company, HUFIT Safety Training and Technical Service Company. Nong Lam University Ho Chi Minh City also has 10 companies under the Business Incubation Center. Ho Chi Minh City University of Food Industry said: Since having the above companies, the transfer of scientific research achievements of lecturers and students has grown significantly with a growth rate of 700-800 million VND/year. For students, the practice environment is much better. Similarly, the University of Medicine and Pharmacy at Ho Chi Minh City annually has a stable source of income from the model of Medical and Pharmaceutical University Hospital to reinvest in facilities, support students, and increase income for lecturers. More importantly, according to the school's representative, the university's company model has helped lecturers and students to have a scientific research environment, practice quality standards right in the learning and teaching process. Results of survey responses and number of established enterprises in universities (Dinh Van Toan, 2017): Among the 43 universities that responded to the survey, there were: 35 public universities, 06 universities non-public schools and 02 colleges. Regarding the type of enterprise, out of 11 companies established at 11 universities, 9 are in the form of limited liability companies, only 2 are joint stock companies.

**Figure 1.1.: Types of enterprises established in surveyed universities**



The survey results also show that: 50% of the universities surveyed intend to set up a business in the school. Of the institutions that plan to set up a business, 100% are public universities. This clearly shows that in practice, the need for business formation and development in non-public universities is very low or nonexistent. Most of these universities are run by private enterprises or individuals wishing to participate in training and providing university-level human resources. Many universities are facing difficulties in enrollment and training. The few schools that already have a brand and develop are in the process of strengthening their brand, increasing their potential in training, scientific research and ranking. Moreover, most of the non-public universities in Vietnam have not invested in training and research in basic science, engineering and high technology.

However, the formation and development of enterprises as well as innovation in “autonomous” activities in universities still have many obstacles and barriers. In addition to the positive side when implementing the autonomy and self-responsibility mechanism, science and technology organizations in universities and universities themselves also face many problems due to the lack of synchronization and contradictions of regulations specified in the current system of legal documents such as the Land Law, the Law on Public Officials, the Law on Anti-corruption and regulations for cadres and civil servants. Not only BK-Holdings company of the University of Science and Technology, but also other companies such as the Natural Science Company Limited of the University of Natural Sciences, Hanoi National University or many other university companies also demonstrated that the company model in the university as a bridge between research and life. But this number is still not commensurate with the potential because of the fact that commercialization of university-enterprise technology is still not synchronized, there are many limitations. VNU established 02 industrial enterprises in the model of joint stock companies (01 under VNU and member research institutes) in 2015, 2017 but by the end of 2018 they all stopped operating. The cause is the conflict over the mechanism of using assets and operating the company when the contribution resources come from the State but there are no appropriate legal guidelines. Vietnam has many legal documents regulating legal issues related to scientific and technological enterprises in general, but technology startups or spin-off enterprises have not been mentioned specifically. This can be considered as one of the biggest barriers for the formation and development of the spin-off business model in Vietnam today. In addition, there are some problems when applying the spin-off business model in universities in Vietnam related to profit sharing from commercialization of research results; on the mechanism of management of officials participating in the establishment of enterprises in research and training institutions... The Government has issued Decree 115 on Science and Technology Enterprises granting autonomy to science and technology units. Each university has a strong team of excellent scientists and students who are passionate about science, with many laboratories with modern equipment. Those are great advantages. But the difficulty is not small. The market experience of managers like us is very limited. The tax system is complicated, imposed, and there are no significant incentives for scientific application as well as technology transfer. Links between universities and external units are weak. Therefore, companies are born and operate based on internal resources. Decree 115 only allows the transformation of scientific and technological institutions into independent companies, but this model cannot be implemented for universities because research centers and institutes are often the property of the state, so when transferred into Enterprises, they cannot execute well. Most of the researched projects succeeded at the laboratory scale, but to transfer them into practice, they need

to be incubated on an industrial scale. However, in reality, we lack that step. The next reason is that the universities themselves lack the facilities to function as a business. Therefore, when performing the transfer, instead of having to have capital, the centers, faculties and institutes themselves do not have the legal status to borrow money from the bank. The above difficulties can be seen, the company model in the university is still relatively unfamiliar, while looking at the world, opening companies in universities is an inevitable trend and has been done for many years. Soon.

#### **4. SOME IMPLICATIONS AND SUGGESTIONS FOR UNIVERSITIES**

The role and importance of the business model in the university has been confirmed in a long-term development process with lessons learned from great success in the world. The formation and development of business models in public universities, organized and managed under a new model in Vietnam, is very necessary, in line with the development trend. It is the shortest path that is the only solution to realize many goals: to closely link training, research and development with production, to participate in the progress of the innovation system, to be the driving force for innovation and creativity of scientists, generate economic value through products with high gray matter content, change social thinking and elevate the position of higher education... Therefore, policies and solutions are needed. methods to promote this model.

Firstly, universities should have policies and incentives to promote commercialization of research results in universities through the university's enterprise system. By this activity, the university creates cultural values and contribute to a greater role in society, building a brand for the university. In the current context of Vietnam, when universities have to be autonomous and responsible in all their activities, this has an important meaning. At the same time, develop an intellectual property policy for commercialized products or knowledge. This ensures that businesses do not profit from university knowledge, but still ensure the interests of businesses benefiting from the commercialization of knowledge or products. The intellectual property policy should clarify the subjects involved, the rights and responsibilities of each party when transferring, or using, products or knowledge that have protected intellectual property. In the policy, it is necessary to clarify the knowledge transfer mechanism and the management mechanism of the governing body for protected knowledge.

Secondly, Harmonize the interests and responsibilities between the university and its affiliated research/service units in the following direction: the university prioritizes research, technology transfer, resource sharing and consulting on unit problems; On the contrary, units need to develop a development strategy associated with the university's scientific research strategy, actively receive results for commercialization and product development, and at the same time perform well as a supplier to provide information and criticism so that faculties and scientists in the university understand the needs of the market. Science and technology organizations under the University are facing difficulties in both ensuring regular funding and performing research and technology transfer functions. Therefore, the Government needs to implement a substantive policy of ordering, helping research organizations have more legal support. It is necessary to adjust a number of regulations such as: allowing scientific and technological organizations to use land use rights to contribute

capital, joint venture, association, production and business in accordance with the provisions of the Land Law; allow scientific and technological organizations to establish, merge and dissolve affiliated units in accordance with current regulations...

Third, Develop policies, mechanisms and regulations on form, content, cooperation and remuneration mechanisms to encourage scientists to actively cooperate with enterprises in parallel with registration and identification of enterprises. Establish and transfer intellectual property rights to enterprises. Financial capacity is one of the leading obstacles for research and technological innovation in any enterprise or organization. However, for enterprises in public universities, the source of investment mobilization is even more difficult. Therefore, this process requires active participation of both the public and private sectors and investment from abroad to mobilize capital....

Fourth, it is necessary to have policies to support start-ups and promote business establishment to attract the potential of individuals and departments in the university to exploit research results, business ideas, cooperation and joint ventures. , associated with reputable businesses. Building a database system on partner enterprises, actively accessing funding sources and investing in research and trial production. Actively invite good managers and administrators to participate in training, research and work activities at enterprises/business units of the university. At the same time, pay attention to selecting and fostering a team of staff with entrepreneurial spirit and business aspirations to participate in startup programs and projects and develop ideas to commercialize scientific and technological research products.

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# SOME PROPOSALS ON PROPERTY TAX

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**ABSTRACT:** *Thuế tài sản là một trong những sắc thuế ra đời sớm nhất trong hệ thống thuế của đa số quốc gia trên thế giới, đặc biệt là ở những nước có nền kinh tế thị trường phát triển. Thuế tài sản được xem là công cụ tài chính hữu hiệu để tăng cường quản lý việc sử dụng đất đai, điều tiết một phần thu nhập của tổ chức, cá nhân có nhiều nhà đất, góp phần bình ổn thị trường bất động sản (TTBĐS) và đảm bảo công bằng xã hội. Việc xây dựng luật Thuế tài sản đã được Bộ Tài chính nghiên cứu trong suốt 10 năm qua. Năm 2018, dự thảo luật Thuế tài sản đã được hoàn thiện, nhưng chưa được đưa vào chương trình xây dựng luật của Quốc hội bởi có nhiều ý kiến trái chiều. Property tax is one of the early levies in most countries' tax systems in the world, especially in countries with developed market economies. Property tax is viewed as a valuable financial tool for improving land use management, regulating a portion of the revenue of organizations and individuals with a large number of real estate holdings, stabilizing the real estate market (REM), and ensuring social fairness. The development of the Law on Property Tax has been studied by the Ministry of Finance for the past 10 years. In 2018, the draft Law on Property Tax was completed, but it has not been included in the law-making program of the National Assembly because of mixed opinions.*

**Keywords:** *real estate, property tax*

## 1. INTRODUCTION

Housing Tax is levied annually on the value of housing and structures on land. Taxes on housing and structures on land have been in place in several nations for a long time, and they are now being implemented in a large number of countries. The Provisional Regulation on Property Tax, issued on January 12, 1956, has collected taxes on housing and land in cities and towns eligible for tax collection in the North of Vietnam (liberated area) since 1955, in terms of housing tax, the tax for the entire year is 0.8 percent of the standard housing price. A land tax (property tax) has been in place in South Vietnam since 1953. All types of housing, structures, and land in cities, townships, provincial capitals, and other towns are subject to property tax. The tax rate on housing is 1% of the value of the housing and structures. The Ministry of Home Affairs sets the minimum tax rate for each locality each year, however it cannot be less than 0.5 percent of the value of housing and structures. The Ordinance on Housing and Land Tax in 1991 mandates the collection of taxes for organizations and persons with the right to own housing. The house area, the taxable price per m<sup>2</sup> for each house class (calculated based on the market price for each house class), and the tax rate (0.3 percent of the taxable price/year) are used to calculate housing tax. However, after 1 year of implementation,

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the collection of housing tax was not appropriate. The Ordinance on Housing and Land Tax, which replaced the Ordinance on Housing and Land Tax in 1991, was promulgated on July 31, 1992. It stipulates that *“In the current circumstances, the housing tax has not been temporarily collected, nor has the housing tax been managed.”*

## 2. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES

The topic “Research on property tax applied in Vietnam in the coming years” in 2022, edited by Prof. Dr. Quach Duc Phap, studied the contents of property tax and gave directions for developing tax policies in Vietnam [1].

Referring to the typical real estate tax problem, author Dam Van Hue with the monograph “Land Tax - A tool to manage and regulate the real estate market” (National Economics University in 2006), the study mentioned the basic issues of real estate and the real estate market, tax policies in the land sector for the management and regulation of the real estate market in Vietnam during the period of time [2].

Recently, there have been a number of topics on property tax policy. Doctoral thesis of Le Xuan Truong with the topic: “Improving tax policy to improve the competitiveness of industrial enterprises in Vietnam” (Financial Academy 2006) [3]; Doctoral thesis of Nguyen Dinh Chien with the topic: “Improving tax policy on property in Vietnam” (Financial Academy 2008) [4].

In general, the research works of domestic and foreign scientists related to tax have partly helped to improve the theoretical and practical system in Vietnam. However, studies have not directly mentioned and given specific solutions to property tax. Faced with the requirements of the process of economic integration and development, the renovation and improvement of theory and practice for the formulation and improvement of property tax policies to develop a healthy real estate market. Avoid speculation, virtual price is the current inevitable trend.

## 3. RESEARCH METHOD

In the article, the author applied the theory and methodology of dialectical materialism, historical materialism, systematic approach, statistical method, comparative method, etc. The article uses secondary data sources, mainly from reports and information originating from official sources of the State management agencies, scientific research works, books, textbooks, journals, e-information pages, reputable companies such as CBRE, etc.

## 4. RESEARCH CONTENT

Many developed countries have implemented a real estate (RE) tax policy, which is a reliable and long-term source of revenue. Taxing the second and subsequent RE is a practice that follows the international trend of keeping the REM healthy and allowing it to develop transparently and sustainably.

*- Objectives of the housing tax law:*

*Firstly:* When properly implemented, this tax will aid in the healthy growth of the REM and the prevention of speculation. Homebuyers for investment purposes will have to think and calculate more carefully, resulting in better use of social resources, minimizing abandoned urban areas and apartment complexes.

*Secondly:* Increase the availability of housing and opportunities for individuals with legitimate needs to access it, as well as the state's revenue. As a result, favorable conditions for investment expansion, infrastructure development, and attracting foreign investment into Vietnam have been created. Furthermore, this tax encourages secondary investors to build a RE firm rather than an individual business, as is the case now.

*Thirdly:* Assist the State in managing the Housing Fund as a basis for macroeconomic housing policies, supporting the use of Housing Fund in a thrifty, reasonable and effective manner in socio-economic development.

*Fourthly:* Reconcil the benefits between the group of people with many places to live with the group of people with housing difficulties, especially in light of the fact that millions of people are homeless while many others own multiple houses or more. As a result, contributing to the fulfillment of social justice, narrowing income, property, and life disparities among all classes of the population.

*Fifthly:* The Housing Tax Law must be simple, easy to understand, easy to implement, suitable for the average intellectual in society. In addition, the tax calculation must also be according to each zone, region, each different type of housing (newly built house, old house...), at the same time, it must be built and implemented with suitable and appropriate steps to the socio-economic conditions and the taxpayer's ability to contribute.

*Sixthly:* There is presently a non-agricultural land use tax in place in Vietnam, however, it is predicted that this tax will only provide 1,843 billion VND to the state budget in 2022, accounting for 0.13 percent of overall revenue and representing only 10% of the ASEAN region's revenue [5].

- *Taxable objects:* Housing tax only applies to the homes of individuals and natural persons; it does not apply to the house of the organization (legal entity). Since the property tax is a direct tax, the purpose of the property tax is to levy income in order to contribute to fair and reasonable incentives among the population. This is a progressive tax designed to ensure that financial resources are distributed and mobilized in a fair and sensible manner. However, because the house of the organization (legal entity) is held by a large number of persons, taxing the house of the organization is incorrect (for administrative agencies and non-business units, the house is the main head office to work for, so not subject to encouragement and regulation).

- *Bases for calculation of housing tax:* is the taxable house area, the taxable price of 1 m<sup>2</sup> of the house and the tax rate.

*Taxable house area:* is the entire construction floor area (including the area of auxiliary works, the area of the attached balcony, if any) of an apartment (for an apartment building) or a house. The area of the house for tax declaration and payment must be at least equal to the area in the house ownership certificate, in some cases it is necessary to coordinate and check with relevant agencies to ensure accurate tax data.

*Taxable price of 1m<sup>2</sup> of the house:* be determined by the Provincial People's Committee based on the quality of construction, quality of use for each type of house (villa, grade 1 house, grade 2 house...) by the Ministry of Construction and be differentiated according to the coefficient

of use time for each type of house, specific grade of house and for each specific type of floor in the house. Taxable prices are stable for 5 years from the first tax year.

*Tax rate:* is the basis of the fee payable per unit to determine the value of the payable tax rate for a type of taxable object, the tax rate is expressed as a percentage %, depending on the type of subject and relevant circumstances, the applicable tax rates will be different.

\* Experiences of other countries

International experience shows that property tax is an early tax in the tax system of most countries in the world, especially in countries with developed market economies. Currently, over 90% of countries collect property taxes with many different names [9]

In Taiwan, the tax rate is different for each real estate segment, such as applying a tax rate of 1.2% - 2% for apartment buildings; about 1.4% for private houses; 3% – 5% for commercial works – according to Financial Investment.

China is a country with bubbles in the real estate market, so they have introduced taxation as a tool to regulate the market. The second homebuyers will be taxed at a rate of 1.2% on the value of the house.

Singapore is a very prosperous country that has implemented a second property tax, which is much higher than the first. Since 2013, an additional property tax of up to 7% of the house purchase price has been imposed on second properties, and a 10% tax on third properties has been imposed since 2013.

In Korea, the application of tax rates is divided by real estate product lines. For example, the tax of 0.15% - 0.5% for private houses; 0.25% for apartment buildings; 4% for villas, houses in golf courses, amusement parks; 5% for houses in large urban areas. The tax rate is calculated on the land price list issued by the locality.

Japan levies a property tax from 1.4% to 2.1% on the value of both the house and the land at market value and is adjusted every 3 years.

In Canada, the tax rate for a second house can be as high as 4%. The country is also tightening its grip on uninhabited RE. It is the responsibility of Vancouver housing owners to self-declare what is their primary home, and which is an investment property.

In the United States, there is a strong tax on the sale of a house and a tax on the second house. When taxing the sale of a house, the US Internal Revenue Service clearly demarcates the boundaries between residential and investment properties. When selling a residential house, the host household usually does not have to worry about taxes, however, when selling a house serving for investment, the regulations will be much different.

According to regulations from 2013 in the US, the tax rate for long-term capital gains related to real estate is about 15% and increases to 20% if an individual sells real estate worth more than 400,000 USD or a household sells real estate. Real estate over sells real estate worth more than 450,000 USD. Taxes are collected when an individual or household generates revenue from the sale of a home, which falls under the income tax category. With a one-time property tax when buying a home, the tax rate varies from state to state but does not exceed 2.35% of the house's value. According to WalletHub statistics, the 5 states with the highest real estate taxes in the US are New Jersey, Illinois, New Hampshire, Connecticut and Wisconsin, ranging from 1.96-2.35%.

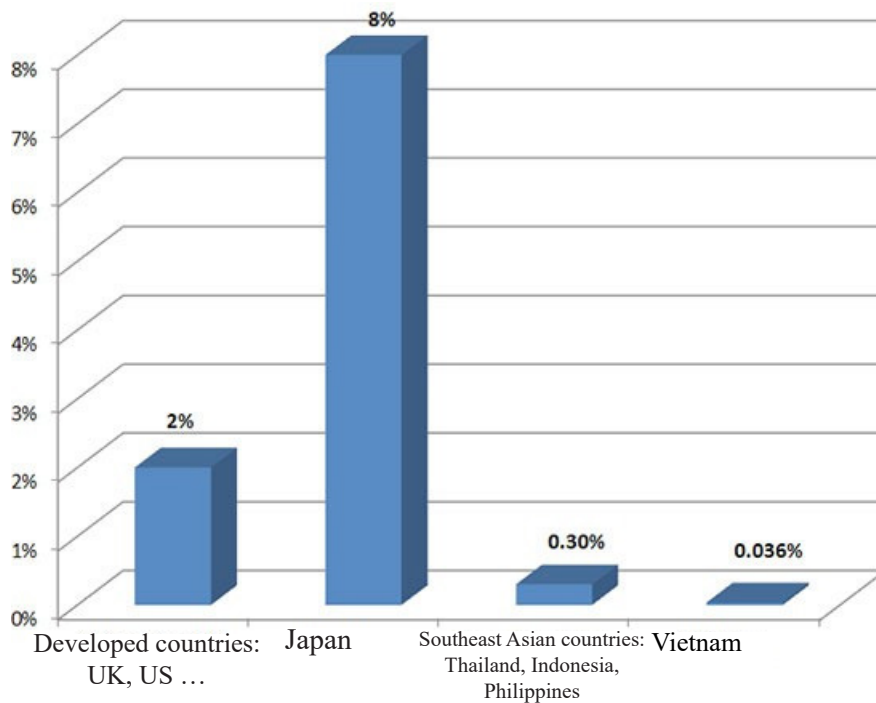
The state with the lowest property tax is Hawaii with a tax rate of 0.27% while the average value of a property in the state is 2.5 times higher than the average value of the US. California's tax rate is more than 1.2%/year of the RE value, including housing and land, while in Texas the tax rate is more than 4%.

However, with a main real estate for living, the state government in the US will collect very low taxes. An American is exempt from sales tax on real estate valued at less than 250,000 USD, or less than 500,000 USD for household-owned real estate. To demonstrate that this is a real estate for living, the individual or household must register the address on their driver's license or voting record, as well as show a fair distance from the real estate to the workplace. If one of two properties cannot be proven to be the primary residence, the individual or household will not be free from tax when selling the property.

**Table 1: Real estate tax weighted/GDP ratio by some countries**

Tỷ trọng số thu từ thuế bất động sản/GDP ở một số quốc gia (%)						
Năm	2015	2016	2017	2018	2019	2020
Canada	3.908	4.008	3.931	3.863	3.856	<b>4.154</b>
Pháp	<b>4.055</b>	<b>4.111</b>	4.247	3.99	3.887	3.976
Hàn Quốc	2.933	2.862	2.964	3.098	3.113	3.976
Anh	3.989	4.077	4.138	<b>4.14</b>	<b>4.07</b>	3.855
Luxembourg	3.293	3.416	3.635	3.854	3.803	3.834
Bỉ	3.458	3.474	3.459	3.439	3.434	3.45
Hý Lạp	3.076	3.152	3.139	3.091	3.054	3.074
Hoa Kỳ	2.965	3.007	<b>4.311</b>	2.941	2.868	3.048
Israel	3.322	3.197	3.195	3.155	3.086	2.945
Nhật Bản	2.478	2.528	2.533	2.551	2.568	2.631
Tỷ trọng thuế bất động sản trong tổng nguồn thu (%)						
Năm	2015	2016	2017	2018	2019	2020
Hàn Quốc	12.355	11.566	11.688	11.61	11.4	<b>14.21</b>
Canada	11.906	12.052	11.898	11.53	11.405	12.079
Hoa Kỳ	11.306	11.621	16.096	11.816	11.485	11.935
Anh	<b>12.528</b>	<b>12.572</b>	<b>12.59</b>	<b>12.588</b>	<b>12.439</b>	11.761
Luxembourg	9.106	9.403	9.708	9.766	9.764	10.018
Israel	10.638	10.272	9.895	10.244	10.215	9.906
Colombia	11.336	10.977	10.273	8.022	9.08	9.681
Pháp	8.956	9.06	9.219	8.696	8.66	8.753
Bỉ	7.835	8.021	7.887	7.839	8.043	8.01

(Source: Organization for Economic Cooperation and Development)



**Chart 1: Graph illustrating the ratio of property taxes/GDP in some countries (Source: CBRE)**

The countries of the world recognize the property tax as an annual tax levied on the net asset value of an individual or legal entity and a tax levied on the holding of property by an individual or legal entity. Property tax has the common characteristics of being a direct and compulsory tax payable to the state budget. Based on the practice of many countries around the world, the imposition of taxes on land and housing that are not put to use or used for improper purposes does not affect the majority of people. The tax rate imposed on the second real estate or investment property increases the budget revenue, gradually limiting the speculation on land, wasteful land use, encroachment on public land and impact social order instability.

## 5. RESEARCH RESULTS

Through analyzing the above views, the author proposes: It is advisable to build a progressive tax rate according to the value of the taxable housing, with conditions on the house area. Thus, the goal of ease of management will be achieved because the housing ownership certificate clearly states the area of the house and the building grade, it is easy to determine the change in the area of the house and the level of the house and is easy to calculate progressive tax rate.

*Proposed tax rate:* 0.3% for second housing owners, for types of housing with taxable value of 1 billion or more (adjusted every 5 years), ensuring each resident has 1 the house that is not subject to tax; the tax rate is low (0.3%), so it will have little impact on people's psychology and economic life.

*The taxable housing limit* is set by the Provincial People's Committee based on local conditions and calculated by population.

The housing area within the limit is built at a low tax rate, above the limit prescribed for each type of household (depending on the number of members of that household) that must pay progressive tax.

In case, households and individuals own two or more houses or apartments, if the housing limit is exceeded, the tax rate will be increased by 2-3 times compared to the basic tax. In case of buying a house and leaving it empty (no one uses it), the tax rate will be increased 2-3 times compared to the basic tax. In case the house is used for lease, it is required to have a business registration certificate of house lease services and to pay the house lease service business tax and income tax and housing tax to be paid at the tax rate within the limit.

Taxable objects are land and housing that have not been put to use or are used for improper purposes, requiring very high tax rates or additional tax rates as some countries have done. The reality shows that raising tax rates for these objects and from the practice of other countries, imposing strong taxes on these object, does not hurt the majority (because only rich people and some officials with illicit income sources speculate on land, thereby creating a high consensus in society).

*Tax exemption:* do not collect this tax on social housing; resettlement housing; commercial housing valued at less than 1 billion dong; grade 4 house and below. Housing used for public benefits (kindergartens, kindergartens, health stations, hospitals, schools, museums, communal houses, pagodas, churches); housing where the owner does not collect money or the rent is only enough to cover maintenance and repair costs; housing suffered from natural disasters or enemy sabotage; housing of policy beneficiaries eligible for tax exemption ... This tax will not be collected for households who have a house but are living in cramped quarters (for Hanoi city below the minimum average housing level, the average housing area of the whole city is 26.8 m<sup>2</sup>/person, according to the Housing Development Program of Hanoi for the period of 2021-2030, with orientation to 2045 and the Housing Development Plan for 2021-2025) and now buy a second and third house... but the total area of these apartments is less than 200m<sup>2</sup> [6].

*- Conditions for implementing the Housing Tax Law:*

+ When implementing tax, the biggest difficulty is the housing data system in Vietnam. Without this database, it is difficult to determine where a second house is. Regarding data collection, the most important is in big cities such as Hanoi, Ho Chi Minh City, Da Nang, Hai Phong, Can Tho. These are the cities that account for the most transactions and the most housing in the country. It is necessary to build and perfect the national information and data system, including the national housing database, connecting sectors and provinces and being updated from time to time.

+ In order to bring this policy to life, it is necessary to calculate the impact and how to implement it: that is, it is necessary to screen people who buy speculative the second house differently from buying the second house for the purpose of moving from narrow housing, lack of space. They have money, they can buy and still keep the old house. Must complete the issuance of a citizen identity card, determine the personal identification number, to know who owns the house.

+ It is necessary to quickly complete the issuance of certificate of land use right for residential RE in Hanoi.

+ There is an appropriate time for taxing, a basis for taxing to avoid taxing wrongly for people who have signed a house sales contract, a project capital contribution contract, and it's time to complete the project and grant the house, but the investor has not yet handed over the house. Determining when to use tax tools to regulate the market is necessary, however, it is very prudent to use direct taxes because usually this tax solves speculation in real estate, however, it can make the REM that has just prospered and turned cold.

### **CONCLUSION:**

After more than two years of the Covid-19 pandemic, everyone was seriously impacted, and their incomes were reduced. The Government has implemented various tax and fee reduction measures to help people and businesses, therefore the Law on Second Housing Tax to be applied on people with many houses needs to be studied and put into effect before 2030, with a roadmap for implementation suitable to the socio-economic situation.

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# SUSTAINABLE DEVELOPMENT OF PRIVATE HIGHER EDUCATION IN DIGITAL TRANSFORMATION CONTEXT

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**Abstract:** *Apparently, sustainable development is becoming a common trend in many fields, including education. In reality, education for sustainable development aims at knowledge, skills, values and capacity for learners. It is regarded as a foundation that ensures quality, equitable, inclusive education and promotes lifelong learning opportunities for all. Actually, Education for Sustainable Development empowers learners to attain self-learn knowledge, skills, values and attitudes, make informed decisions, take responsible actions for the integrity of the environment, economics and social justice. Moreover, education for sustainable development is recognized as an integral element of sustainable development goal (SDG) 4 in terms of quality education. In order to keep pace with the development trend of higher education and graduate education in the world, associated with the new context of the digital transformation process, higher education needs innovative investment in training programs, development of human resources with high quality lecturers and international cooperation in scientific researches towards sustainable development.*

**Keywords:** *higher education, sustainable development, digital transformation*

## 1. INTRODUCTION

There is no doubt that digital transformation in recent years has created an important milestone for the emergence of new technologies and business models in higher education. The rapid development in educational technology such as artificial intelligence, big data, internet of things, etc, truly has a strong impact on the sustainability of higher education development. These new factors use technology and data to introduce new, alternative approaches to better meet the changing expectations of learners. As a result, it leads universities to face stiff competition, not only among higher education institutions but also with competitors that were previously “outside the industry”. In reality, there are three key factors of higher education for sustainable development: faculty, creative environment, and implementation of the national education strategy. The world context with 4.0 revolution requirements and changes and digital economy account for an increasing proportion in all countries. In fact, various challenges arise with imbalance between vocational education and higher education in the early period of 2021-2030 and preparation for the period up

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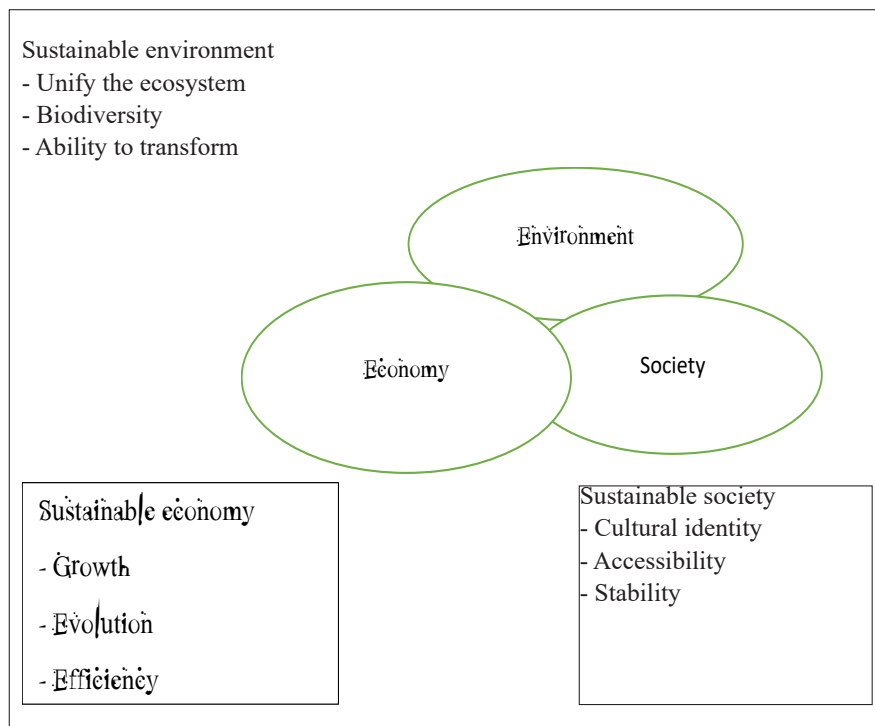
2 Graduate Academy of Social Sciences

to 2045. The “high-quality” human resource forecast here is the balance between human understanding of the macro and micro world in the relationship between human and nature and the relationship between human and machine. In reality, sustainable structure in educational development is an issue that State managers and managers of universities must consider in current and future educational development strategies.

## 2. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES

In the process of world economic development, each region, each country, together with economic growth are facing a situation of scarcity of resources. Moreover, the natural environment is destroyed, thereby affecting living activities and manufacturing activity of human. In fact, the process of economic growth does not guarantee progress in social justice. There is economic growth, but the culture and morality deteriorate, the gap between rich and poor increases with social instability. Since then, the development process needs to have a harmonious regulation between economic growth, social justice progress and environmental protection, which is seen as an indispensable requirement in the development of nations in the world. According to the report “Our Common Future”, United Nations World Commission on Environment and Development (WCED, 1987), “sustainable development” is defined as “*Development that meets needs of the present without compromising the ability of future generations to meet their needs. This perspective focuses on the aspect of effective use of natural resources and ensuring the living environment for people.* The Earth Summit on Environment and Development was held in Rio de Janeiro (Brazil 1992) and was supplemented and completed at the World Summit on Sustainable Development held in Johannesburg (Republic of South Africa). , 2002) identified that “*Sustainable development is a development process with a close, reasonable and harmonious combination of three aspects of development*”, including: economic development (especially economic growth), social development (especially social progress and justice; poverty reduction and job creation) and environmental protection (especially pollution treatment and remediation, rehabilitation and quality improvement) environment; fire prevention and deforestation; rational exploitation and economical use of natural resources.

Based on Vietnam Environment Law (2014) “*Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet those needs on the basis of close integration, harmonizing economic growth, ensuring social progress and protecting the environment*”



**Figure 1.1: Sustainable development (UNESCO)**

Therefore, among the concepts of sustainable development, the emphasis is placed on the importance of economic growth associated with environmental protection and social stability.

### **Sustainable development assessment criteria**

**Initially**, an economy regarded as a sustainable one needs to meet the following requirements: (1) Having high GDP growth and GDP per capita. High-income developed countries must maintain a stable growth rate, and poorer low-income countries which need high growth rates. Actually, developing nations in current conditions need GDP growth of about 5% per year to be regarded as signs of sustainable economic development. (2) GDP structure is also a criterion for assessing sustainable economic development. To shift the economic structure towards modernity, the proportion of industry and services in GDP is higher than that of agriculture. (3) Economic growth must be growth with high efficiency, not accepting growth at all costs.

**Secondly**, social sustainable development is assessed by criteria including: HDI, income equality coefficient, indicators of education, health, social welfare, cultural enjoyment. Furthermore, social sustainability is the guarantee of a harmonious social life. In reality, there is equality between social classes, gender equality; the gap between rich and poor is not too high and tends to close; the difference in life expectancy between regions is not large.

**Thirdly**, environmentally sustainable development. In fact, the process of industrialization, modernization, development of agriculture and tourism; the process of urbanization, new rural construction, etc, negatively affect the environment and natural conditions. Environmental sustainability is when using those natural elements, the quality of human living environment

must be ensured. It is to assure the purity of air, water, land, geographical space and landscape. Furthermore, the quality of the above factors should always be respected and regularly assessed and verified according to national or international standards.

According to UNESCO, education for sustainable development is a lifelong learning process and an integral part of quality education that enhances the cognitive, social and emotional and behavioral well-being of learners. This process includes learning content and outcomes, pedagogy and learning environment. Besides the curriculum, the school architecture model for sustainable development is also regulated through evaluation criteria such as BREAM, Green Star, LEED, and so on, for schools. Additionally, sustainable development of higher education is understood as the process of mobilizing education to develop to a higher level on the basis of repeating some characteristics of current education, making higher education meet the requirements of current society. This development must go through a process of movement that has changed in quality and ensures stable, positive and long-term factors with characteristics such as responsiveness, adaptability, efficiency, and updating.

Norman Adamson Sigalla King (2013) in his research pointed out that the cause affecting the quality of education is the teaching method of teachers. In the context of digital transformation, teaching methods will create attraction but may negatively affect learners' perception when applying technology in information and data mining. While filtering good points, bad grades, students' information still has limited influence on sustainable development in education. Maya Puspita Dewi et al (2019) study on service quality assurance for sustainable education in Indonesia. Research suggests that for the sustainable development of education, the active participation of local agencies plays an important role. Roekel (2008) depicted that the participation of parents, families and communities in higher education will contribute to sustainability, especially in a new context with many influencing factors. In addition, family and community involvement in the education of children forms the basis of education at school. In terms of assessing sustainability in education, OECD (2012) highlights the relationship between social and economic costs of school dropout and educational failure.

According to Pham Hong Quang (2022), in the context of digital transformation, there are three key factors of higher education for sustainable development: lecturers, creative environment, and implementation of the national education strategy.

**Lecturers:** University lecturers are regarded as a critical factor in transferring knowledge and achievements of digital transformation to students. In fact, improving the quality of human resources provided to society helps to meet the requirements of the new context, and increase the competitiveness of a country. In reality, when performing digital transformation, students can receive information from artificial intelligence from anywhere in the world. Teachers are supported by artificial intelligence in grading, tutoring, educational software, improving teaching at their own pace, and monitoring learners' progress. Therefore, in order to obtain sustainable development, university lecturers need to properly identify the nature of the above problems to enhance their confidence and adapt to that change.

**Creative environment:** the university environment has great attraction for students and influences their choice decisions. In order for learners to master artificial intelligence, the creative environment

at universities will be the foundational factor to guide the next generations to continue to create knowledge, develop culture with the high responsibility as a teacher and respect human values.

Implementation of the national education strategy: practice shows that higher education is the cradle of science, the pillar of the country's industrialization development, and the training ground for the people of the ruling apparatus - who have successfully carried out economic transformation and revitalization of the country. Furthermore, higher education moves forward to become a global education, knowledge to universal knowledge, people to become world citizens. In reality, indigenous culture with its characteristics are inherently precious assets. Therefore, it is necessary to build a unique Vietnamese education, integrate and spread to the region and the world, and show bravery of Vietnamese. It cannot be denied that implementation of the national strategy will be regarded as a vital factor contributing to the sustainable development of higher education in the digital transformation process.

Actually, sustainable development of private higher education in the context of digital transformation is a central task of Vietnamese education today. CTU is a higher education institution in the national education system established by social organizations, socio-professional organizations, economic organizations or individuals. It invests in building facilities to ensure operational funding with capital outside the state budget; operates on the principle of voluntary capital contribution, financial autonomy and training activities as prescribed by law. Moreover, it creates self-balancing revenues and expenditures, complies with regulations on accounting and statistical regimes, and fulfills obligations to the state budget.

### **3. METHODOLOGY AND PROPOSED MODEL**

In the research, the authors use a combination of common methods in economic research, such as: analytical and synthesis methods; technical methods such as statistical, descriptive, comparative, evaluative, and sociological investigations. The data used in the analysis includes both primary and secondary data. Secondary data is extracted, quoted from reports, research works of previous researchers and organizations and research units in the field of education. Primary data is collected through actual surveys and questionnaires.

The content and reality of the research is carried out through two stages: (1) Qualitative preliminary research, and (2) Formal research.

Qualitative preliminary research is carried out through qualitative methods with the aim of building research models, discovering, adjusting and supplementing observed variables for measuring research contents. In addition, the questionnaire was established to collect authentic opinions of lecturers and students to find out the factors affecting the sustainable development of higher education. As a result, it can be illustrated about the trend of sustainable development of higher education in the coming time.

Formal research of the topic is carried out to find out the appropriateness of the research content. After conducting the survey, the collected questionnaires will be cleaned and entered into the database. In fact, incomplete or incorrect answer sheets will be discarded to assured that the data after cleaning have enough reliability to include in the analysis.

Research subjects are students and teachers, convenient sampling method with sample size of 250 including 150 students and 100 teachers.

#### 4. RESEARCH RESULTS

Digital transformation has been fully utilized by private universities to increase their attractiveness to learners in recent years. The contribution of private universities to economic and social development in Vietnam is undeniable. Furthermore, private universities play a particularly important role in training human resources, reducing pressure on state budget expenditures, diversifying the education system, and meeting the increasing learning needs of society. As of early 2022, out of a total of 236 universities across the country, 61 private universities account for about 26% of the total number of universities across the country and are distributed in 29 per 63 provinces and cities. The ratio of students makes up about 13% of the total number of students in the country, the number of teaching staff is 20,500 people. In reality, the size and quality of the teaching staff is constantly increasing over the years such as: Binh Duong University (with nearly 1,000 scientific staff working in faculties, departments, centers, research institutes, branches). In this university, the number of permanent staff and lecturers are 360 people. There are 6 professors, 40 associate professors, 52 doctorates and 130 masters, etc. Thang Long University (has a permanent staff of 155 people, including 12 professors, 5 associate professors, 8 doctors and 88 masters. Depending on the development goal of each stage, the university spends 40-80% of its revenue to reinvest in building facilities, staff, lecturers, content - training programs and scientific research. learn. Additionally, the system of facilities and the application of achievements of digital transformation in teaching are also strengths of private universities in recent years. Many schools meet international standards in terms of modern infrastructure and science and technology such as: FPT University, Hong Bang International University, Thang Long University, Duy Tan University, Nguyen Tat Thanh University, and so on. According to data reported by 43/61 TTC universities, about 77% of schools had revenues exceeding expenditures and paid 111 billion VND to the state budget. The ratio of total profit to total expenditure reached 143%<sup>2</sup>. As of December 31, 2020, there are 28/61 TTC universities that have met the national educational quality standards. In fact, a number of training programs of private universities have achieved quality controlled by international surveillance organizations. Scientific research by lecturers of private universities has also been focused in recent years. Many scientific publications have raised the position and ranking of many private universities in the regional and international university rankings, such as: Duy Tan University. It was first ranked by the World University Rankings Organization and attained academic achievement (URAP) ranking; 2 TTC universities are present in the Top 10 universities and research institutes of Vietnam leading in terms of the number of international publications during the period from August 1, 2018 to July 31, 2020.

Undoubtedly, sustainable development of private higher education requires schools to have strategies for the development of teaching staff, a creative environment and implementation of the national education strategy. Over the years, the sustainable development of private higher education to adapt to the digital transformation process has been recognized by society and learners.

**Table 1. Student assessment on the sustainable development of private universities in the context of digital transformation**

No.	Criteria	Quantity (human)	Ratio (%)
1	Intention to choose school according to desire	25	16.7
2	School brand	115	76.77
3	Quality of teaching staff	99	66
4	Innovative learning and research environment	125	83.4
5	Application of science and technology in education	123	82
6	Research and technology transfer activities	129	86
7	International cooperation in training	122	81,3
8	Implement the national education development strategy	116	77.3

(Source: Research team survey)

In respect to respondents' background, they are from various private higher institutions such as FPT University, Hong Bang International University, Thang Long University, Duy Tan University, Nguyen Tat Thanh University, and so on. Statistically, approximate 70% of them graduated from 2019 and have working experiences for three years and 30% of them graduated from 2020 and have working experiences for two years. Although the ratio of initial desire to enter the school of students was around 16%, the evaluations during the training process of students at private universities in terms of reputation, quality of lecturers, application of public science, technology, learning environment and international cooperation research is relatively high. It illustrates that the sustainability in educational development of private universities has been recognized by learners in particular and highly appreciated by the society in general.

In order to enhance the reliability of the study, the research team also surveyed lecturers on the subject of the sustainable development of the private universities in the context of digital transformation, which is depicted in the table 2

**Table 2. Lecturers' assessment on the sustainable development of private universities in the context of digital transformation**

No.	Criteria	Quantity (human)	Ratio (%)
1	Intention to choose school for working according to desire	40	40
2	Intention to choose school for working according to working benefits like salary, allowance, etc	65	65
3	School brand	80	80
4	Quality of administration staff	75	75
5	Innovative teaching and research environment	81	81
6	Application of science and technology in education and training	85	85
7	Research and technology transfer activities	88	88
8	International cooperation in training	86	86
9	Implement the national education development strategy	78	78

(Source: Research team survey)

On the subject of respondents' background, they are also from various private higher institutions such as FPT University, Hong Bang International University, Thang Long University, Duy Tan University, Nguyen Tat Thanh University, and so on. According to the table 2, nearly 70% of them have working experiences for five years and 30% of them have the experience in education field for ten years. Although the ratio of initial desire to choose a school as the working place of teachers was only about 40%, the evaluations during the teaching and working process of lecturers at private universities in terms of working benefits, school, reputation, quality of administration staff, application of public science, technology, working environment and international cooperation research is relatively high. It illustrates that the sustainability in educational development of private universities has been recognized by lecturers in particular and highly appreciated by the society in general.

In addition to the results achieved in the context of digital transformation, the development of private higher education in recent years has many shortcomings like the low quality of student input, the difficulties being faced during the enrollment process. In fact, the teaching staff still lacks qualified and dedicated lecturers with the school. Furthermore, the training program is still following the learners, lacks stability and compliance with the regulations of the Ministry of Education, etc.

## 5. DISCUSSION AND CONCLUSION

In order to transform digitally, experts affirm that private universities will have to go through three main stages in the development process and be forced to choose operational forms in line with their strategies and orientations. Therefore, in order to assure sustainable development in the context of digital transformation, private schools need to promote the application of modern technology in terms of management, teaching and learning by investing in equipment, management information system, online training system, modern lecture system, electronic library, etc. What's more? The universities should promote the quality of management team and highly qualified lecturers in the field of science and technology. In reality, professional expertise must know how to apply modern technology in management and teaching for the capability to adapt to changes in training programs, models and learning needs of learners. Moreover, the universities are advised to promote scientific research activities, technology transfer and application of such research results in teaching - learning and training management activities, enhance academic exchanges, share experiences, form research networks among domestic and foreign higher education institutions. It is suggested strengthening international cooperation in education and training activities, especially with prestigious higher education institutions in the region and the world to access advanced teaching and learning methods, highly efficient management methods, advanced and modern educational scientific achievements of the world.

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# RELATIONSHIP BETWEEN SALARY AND PERCEPTION OF PAY EQUITY IN VIETNAM'S SOES

PhD. Ngo Thi Ngoc Anh<sup>1</sup>, PhD. Do Tat Cuong<sup>2</sup>, MA. Hoang Thanh Tam<sup>3</sup>

**Abstract:** *Salary has been considered an economic tool, which affects employees' perceptions of equity at work, to motivate employees in the human resource management of enterprises. This study focuses on examining relationships between salary policies and practices, which are key elements of compensation, and the employees' perceptions of pay equity. A quantitative method has been used to investigate the research question of what are the relationships between salary and employees' perceptions of pay equity in Vietnam's SOEs? The study's findings present that all salary components including basic salary, business salary, allowances, and bonuses directly impact employees' perceptions of pay equity. Among those elements, business salary has the strongest effects that also reflect the key changes in governing compensation policies and practices in SOEs during their transformation. It contributes to current literature on fairness compensation in transitional enterprises and provides recommendations for SOEs management to establish equitable compensation.*

**Keywords:** *Salary, Pay equity, Vietnam, State-owned enterprises*

## INTRODUCTION

Compensation, in which salary is a key element, has been a concern in both academia and practice due to its significant influence on firms' success. It is defined as 'all forms of financial returns and tangible services and benefits employees receive as part of an employment relationship' (Milkovich et al. 2011, p. 10). Salary, a key element of the financial returns, is believed to be a tool to retain the best talent to success for any organisation today. Fairness or equity of salary policies and practices is a fundamental element creating employees' satisfaction with their reward received (Milkovich et al. 2011).

Vietnam has been reforming its economy since 1986 which has placed great changes in SOEs' structure and management. This transformation has caused significant changes in SOE types, their management, and salary policies and practices. A series of salary policies have been issued to guide SOEs' practice reform. However, since *Doi moi* happen, productivity in SOEs has still not much improved. The salary policies and practices have been blamed for the inefficiency. It has been mentioned daily in popular Vietnamese newspapers that SOEs'

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compensation has failed to encourage their employees to improve performance and productivity. However, there is a lack of study about these issues in Vietnam. Thus, this study focuses on investigating salary issues in the transformation process of Vietnam's SOEs to understand the relationships between salary and perceptions of pay equity in these companies. In doing so, the study tackles the research questions: What are the relationships between salary and employees' perceptions of pay equity in Vietnam's SOEs?

A quantitative method has been used in this study to examine relationships between the salary components and employees' perceptions of pay equity. 800 questionnaires were sent to the participants to collect data for this study. A standard multiple regression has been used to test and understand the relationships.

## LITERATURE REVIEW

### *Perception of pay equity*

Perception of pay equity refers to employee perceptions of their pay when they make a comparison with the inputs (contributions) they are bringing to the job Adams (1963). An employee brings many inputs to his/her job, including experience, education, intelligence, physical strength, commitment, status, and social connections; and then expects to receive a just return or outputs. The outputs might be in the form of status, benefits, or basic pleasures, and reimbursed monetarily. The employee always makes a comparison between the input and the output, then if the ratio between the inputs and the outputs is equal, they perceive there to be pay equity, otherwise, feelings of pay inequity exist.

Since equity theory was proposed by Adams (1965), various studies have been conducted to confirm multiple referent dimensions of perceived pay equity. For example, Finn and Lee (1972) research sources of comparisons that individuals used in evaluating their pay. Their research findings show that, in most cases, the respondents indicated that they used a mix of internal and external comparisons to determine whether pay is equitable or not. In line with this study, Hills (1980) and Scholl et al. (1987) conducted research about pay equity referents and confirmed that two crucial dimensions in research on pay equity are internal equity and external equity. For internal pay equity referents, the comparison occurs between employees in an organisation who might have similar jobs or different jobs (Bloom 1999; Werner & Mero 1999; Trevor et al. 2012). Internal equity exists when an employer pays wages commensurate with the relative internal value of each job (Romanoff et al. 1986). For external pay equity referents, the comparison occurs with pay for a similar job but at a competing organization (Werner & Mero 1999). External equity exists when an employer pays a wage rate commensurate with the wages prevailing in external labour markets. Assessing external equity requires measuring these labour markets (Romanoff et al. 1986). More recently, Della et al. (2015) confirm that the more widely accepted referents are internal pay equity and external pay equity referents to measure pay equity.

Based on the relevant literature, this study uses multiple dimensions to measure the perception of pay equity. Those dimensions are internal and external referents. The internal referents comprise self-comparison and the comparison with others within an organisation. The external referent is the comparison with others working in similar jobs but in a competing organisation.

### *Salary*

Salary is a monetary reward that an employee receives usually monthly based on their working time, and the quantity and quality of tasks they have completed (Government of Vietnam 2012). In enterprises, salary comprises three major components: basic salary, business salary, and allowances. According to the Vietnam Labour Code 2012, these components are defined as follows.

*A basic salary* is the amount of salary defined in labour contracts or labour agreements between employees and employers. *Business salary* is the amount of salary calculated based on business outcomes of companies and employees' performance. *Allowances* are extra monies paid for difficulties of positions or jobs and are defined in labour contracts, collective agreements, or regulations for employing labour (Government of Vietnam 2012).

*Bonuses* are the amount that employers reward employees based on business results of annual production and the degree of completion of work by employees (Milkovich et al. 2011). In Vietnam, bonuses are considered a salary element having similar characteristics to salary in terms of motivating employees at work (CIEM 2012). Salary and bonuses in Vietnam are similar to a cash salary. Thus, this study combines both salary and bonuses in a variable, namely Salary, to examine their effects on employee perceptions of pay equity.

### *Relationships between salary and employees' perceptions of pay equity*

The research on the impacts of pay as cash salary on the perceptions of pay equity is the most popular in the relevant literature. Feelings about a fair amount and procedure of payment can have positive effects on employee attitudes toward the total pay or salary. Regarding the amount of pay, when people sense that they are not being fairly compensated for their efforts, they are less satisfied with their total pay (McFarlin & Sweeney 1992; Heneman 1985; Summers & DeNisi 1990), and as a result, they tend to experience higher absenteeism rates, burnout, emotional exhaustion, and turnover rates (Telly et al. 1971; Carson et al. 2010). Moreover, when employees feel they have been underpaid due to wage cuts, they might react by engaging in acts of stealing and theft (Greenberg 1990).

More recently, Kumari (2016) reviews online research publications on employee pay perceptions which indicate that employee perceptions of pay equity are strongly related to whether the payment is adequate to their skill, efforts, and performance brought to the work. If the employees see that their current salary is competitive in the labour market, they will tend to perceive it as equitable.

For procedures of pay, Robert and Karren (2011), in a study on organisational justice and pay level satisfaction, found that the procedural salary had the strongest influence on total pay satisfaction and feelings of fairness. Similarly, Zheng et al. (2014) found that the decision-making process of pay has more impact on the perception of fairness than the amount of pay. Della et al. (2015) indicate that the transparency, fairness, and openness of salary decisions significantly enhance employee satisfaction with pay and perception of pay equity.

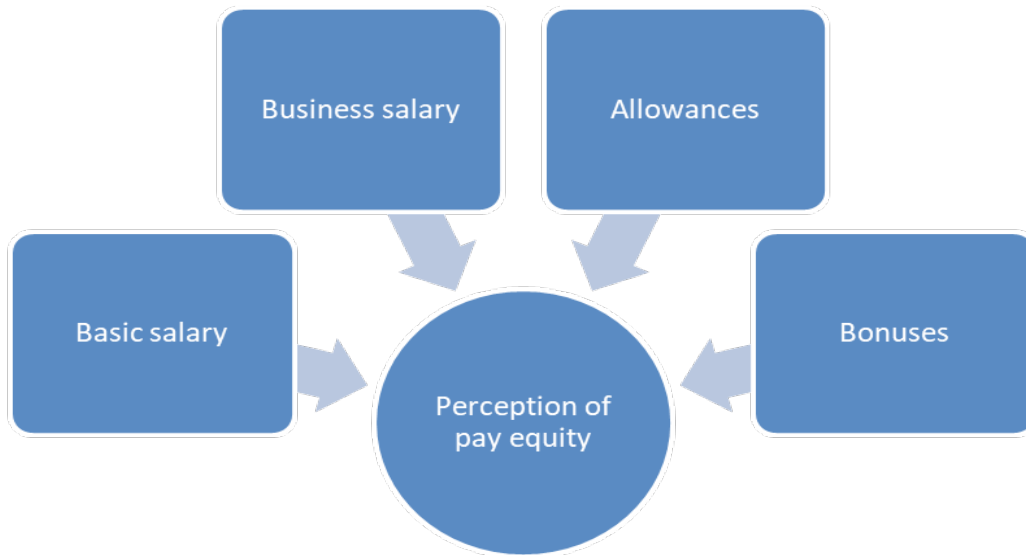
Besides pay as cash salary, Romanoff et al. (1986) state several non-monetary benefits are influencing the perception of pay equity. Studies show that workers often rank job security, working conditions, advancement opportunities, management appreciation, relations with co-workers, and flexibility of hours or job assignment, ahead of pay. Studies done by Davis and Ward (1995) and

Martin and Bennett (1996) indicate that the perception of fairness in benefits provided by the firm was related to the fairness of the total amount of salary. Jawahar and Stone (2011) emphasise that the employees' satisfaction with value and administration of benefits will tend to result in satisfaction with the overall salary system.

Research on salary factors influencing the perception of pay equity poses a direction for studying the impacts of salary components on the perception of pay equity. Since 1978, Carrell and Dittrich (1978) were concerned that research on pay equity should include the systemic dimension of salary components in the research design. However, this issue has not been well investigated. Gerhart and Rynes (2003) emphasise that numerous factors have been identified as influencing individual pay equity. Some factors that have yet been explored include pay, benefits, and personal characteristics; but the effects of all salary components on pay equity have not been explored well. A list of individual-level factors that affect pay is useful, but to substantially advance the field, research needs to develop models incorporating numerous factors, rather than just adding other individual factors to the list (Werner & Ward 2004). Similarly, Williams et al. (2006) point out that the literature on attitudinal reactions relating to salary and fairness perceptions still has to be conducted independently. More recently, Jawahar and Stone (2011) emphasise that, even though most would readily acknowledge that fairness is important to salary decisions, research examining how fairness perceptions relate to reactions to components of pay is relatively scarce. Thus, this literature gap provides a significant rationale for conducting a study examining the roles of whole salary components as antecedents of perception of pay equity.

Although salary is a vital component of pay, empirical research on the relationship between salary and perception of pay equity is scant. Most of the existing research focuses on the relationship between salary and perception of pay satisfaction, and pay equity and pay satisfaction. Regarding the amount of salary, Rice et al. (1990) showed that the actual amount of salary that an individual receives well explains about 25 per cent of the variance in pay satisfaction. Many years later, Martocchio (2006) and Milkovich and Newman (2005) continue to state that, when employees are satisfied with the amount of their salary, they tend to be happy with the total payment received. Similarly, regarding the salary procedure, several authors (e.g. Dyer & Theriault 1976; Heneman 1985; Miceli & Lane 1990) have noted the positive relations between salary procedure and pay satisfaction. Miceli and Lane (1990) state that employees who are happy with how payments are determined will feel happy with their total payment. Lind and Tyler (1988) and Thibaut and Walker (1975) were consistent with the idea that, when people are more positive about salary procedures, this results in favourable pay outcomes or pay satisfaction. Therefore, we could conclude that salary positively affects pay satisfaction. In addition, Heneman (1985) reviews the pay satisfaction literature, concluding that the relationship between perception of pay equity and pay satisfaction is always positive. According to Milkovich et al. (2011), salary is a vital component of pay; therefore, when employees feel satisfied with it, they tend to perceive total pay to be equitable. Based on the literature on the relationship between salary and pay satisfaction, and pay equity, the relationship between salary and perception of pay equity is hypothesised as follows.

*Hypothesis: Salary, including basic salary, business salary, allowances and bonuses, positively influences the perception of pay equity in Vietnamese SOEs.*



**Figure 1: A conceptual model of relationships between Salary and Perception of pay equity**

*Source: Adapted from Milkovich et al. (2011); Government of Vietnam (2012); Adams (1965)*

## METHODOLOGY

### *Research method*

The quantitative research method is used to answer the research question. To collect data, a questionnaire survey is employed. The target sample of this survey was employees in SOEs across the country. The researcher chose two main locations for this study: Hanoi and Ho Chi Minh City. The SOEs were chosen randomly from the list of 498 SOEs on the government website of enterprise information, <http://doanhnghiep.chinhphu.vn/thong-tin-doanh-nghiep.html>.

The survey was conducted by both online surveys and in hardcopy, from July to September 2015. However, the responses mostly came from the paper survey method. To access the SOEs for conducting surveys, the researcher contacted the Trade Union officers in these firms to obtain an introduction to individual employees. After obtaining acceptance to answer the survey from participants, questionnaires were sent to respondents' addresses, or the link of the questionnaire via Qualtrics was sent to their emails. Then, for the paper survey method, the researcher travelled to those respondents to collect questionnaires to increase the response rate. However, in some cases, the researcher directly handed the questionnaire to the participants and then waited to get back their responses on the same day. In total, 800 questionnaires were sent to the participants, and the researcher received 655 responses, of which 30 responses were from online surveys. This led to a rate of response of approximately 82 per cent.

### *Questionnaire*

To measure variables in the research, including perceptions of pay equity; and the four main salary components, namely, basic salary, business salary, allowances, and bonuses, each variable

was measured by three items. To measure the salary components, the researcher referenced the Pay Satisfaction Questionnaire (PSQ) suggested by Heneman and Schwab (1985), the Survey of Salary Policies and Practices by WorlDatWork (2003), and the Employee Satisfaction Survey Sample by ECO Canada (2015). These questionnaires were referenced as a starting point for a systematic approach to measuring multiple dimensions of salary components. The key points in the PSQ survey are to measure levels, actual amount, and procedure of salary components. The surveys suggested by WorlDatWork (2003) and ECO Canada (2015) guided items measuring the relational returns in the present survey. Besides questions about salary components and perceptions of pay equity, the questionnaire has additional questions about general information of the respondent, including gender, age, educational level, position, working length, income level, SOE type, and industry.

The study used a closed-ended questionnaire survey to ask respondents about their opinions on their salary components and pay equity in SOEs in Vietnam. Each multiple-choice item was constructed with a five-point Likert scale, comprising Very satisfied, Satisfied, Neutral, Dissatisfied, and Very dissatisfied. The questionnaire was translated into Vietnamese by applying a forward translation process, due to all the respondents being Vietnamese. The questionnaire was tested in a pilot survey, and revised in response to the feedback from the pilot test.

#### *Data analysis approaches and tools*

This study employs standard multiple regression because its characteristics suit addressing the research question. This study conducted data analysis through four steps, via employing SPSS: Step 1: Data entry and data screening: this step involves identifying and correcting missing data and checking outliers in cases; Step 2: Data reliability and validity examination: this step employs Cronbach's alpha, exploring factor analysis (EFA), and a common method variance test, for checking the reliability and validity of the measurements; Step 3: Regression assumption examination: this step involves checking violations of scales to multiple regression assumptions; Step 4: Regression analysis and findings: this step analyses regression outcomes and quantitative findings.

#### *Unit of analysis*

This study focuses on the perceptions of employees about their salary and pay equity; thus, the unit of analysis is at the individual level. The impacts of internal and external contexts of the firm that might directly or indirectly influence employee perceptions are also examined to provide a comprehensive explanation of the relationships between salary and individual perceptions of pay equity in Vietnamese SOEs.

#### *Demographic factors*

The demographic factors are controlled in this study. Perception is a process in which people select, organise, interpret, retrieve, and respond to information. The perception is subjective and varies from person to person. Different people perceive different things about the same situation according to their own sets of past experiences, culture, faith, and values (McCuddy 2003). Therefore, employees' demographics might place influence their perceptions of pay equity.

The focal point of this study is not on the impacts of demographic factors on perceptions of pay equity; however, due to the potential impacts of these demographics on the regression

results, these factors will be controlled for when examining the relationships between salary and perceptions of pay equity in Vietnamese SOEs.

## FINDINGS

### Checking the reliability of measurement

Table 1 presents the Cronbach's alpha of the measurements, ranging from 0.741 to 0.911. According to Hair et al. (2014) and Kline (2015), these are all above the acceptable lower limit, and in the very good and excellent ranges of internal consistency. These results confirm that the measurements were accurate and consistent.

**Table 1: Cronbach's alpha of measurements**

Variable	Number of items	Observation	Cronbach' alpha
Perception of pay equity	3	650	0.791
Basic salary	3	650	0.892
Business salary	3	650	0.909
Allowances	3	650	0.911
Bonuses	3	650	0.902

### Checking assumptions of multiple regression

#### *Sample size*

Sample size has considerable effects on the reliability of multiple regression analysis. Hair et al. (2014) state that the range of sample size influences levels of statistical power and statistical significance of multiple regression analysis. Any sample size lower than 30 cases would be considered small. In addition, Tabachnick and Fidell (2007) provide a formula to calculate the appropriate sample size for multiple regression analysis, as follows:  $N \geq 50 + 8m$ , where N is the sample size, and m is a number of independent variables. Following this formula, as this study has 15 independent variables, the minimum required sample size is  $50 + 8 \cdot 15 = 170$  cases. However, the sample size of the research is 650, much larger than the minimum requirement. This large sample size gives the multiple regression analysis more reliability.

#### *Multicollinearity*

Multicollinearity was detected via SPSS as a part of the multiple regression procedure. The two values are Tolerance and VIF, which show whether multicollinearity among independent variables exists or not. Tolerance is an indication of how much variability of the specified independent variable is not explained by the other independent variables in the model. VIF refers to the variance inflation factor; it is the inverse of the Tolerance values. Pallant (2010) suggests that a Tolerance value less than 0.1 and VIF value above 10 indicate multicollinearity.

This study conducted four multiple regressions to check multicollinearity among independent variables. Table 2 shows that Tolerance values of all independent variables are from 0.386 to 0.862, which are above 0.1; and VIF values of all independent variables are from 1.160 to 2.587, which are less than 10. Therefore, according to Pallant (2010), these regressions do not violate assumptions of multicollinearity.



**Table 2: Collinearity statistics (Dependent variable-DV: Perception of pay equity)**

Independent variable	Tolerance	VIF
Basic salary	0.446	2.242
Business salary	0.386	2.587
Allowance	0.486	2.056
Bonuses	0.432	2.313

### *Normality*

Normality is a form of distribution where its statistical characteristics estimate the normal distribution for a single metric variable. It is important to check the normality of the variables in this study because a significant departure from the normality of a variable's distribution may weaken the variable's statistical results (Tabachnick & Fidell 2007). Thus, a normality test was done to investigate serious departures from normality, before running further multiple regression analysis (Hair et al. 2014).

The results in Table 3 show that all constructs have values of skewness less than 2 and values of kurtosis less than 7. These results indicate that the violation of normality should not be a concern in this study, according to West et al. (1995) and Kim (2013).

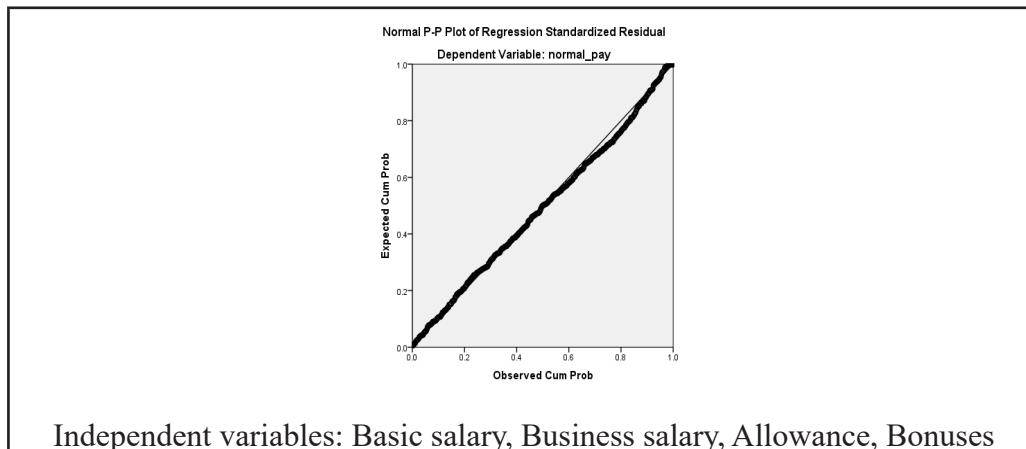
**Table 3: Results of Skewness and Kurtosis**

Variable	N	Min	Max	Mean	S.D	Skewness		Kurtosis	
						Value	Std. Error	Value	Std. Error
Perception of pay equity	650	1.14	4.92	3.14	0.74	-0.121	0.096	-0.316	0.191
Basic salary	650	1.39	4.88	3.10	0.66	-0.128	0.096	-0.190	0.191
Business salary	650	1.36	4.92	3.13	0.68	-0.158	0.096	-0.192	0.191
Allowance	650	1.42	4.88	3.07	0.64	-0.187	0.096	-0.183	0.191
Bonuses	650	1.52	5.00	3.17	0.66	-0.137	0.096	-0.147	0.191
Valid N (listwise)	650								

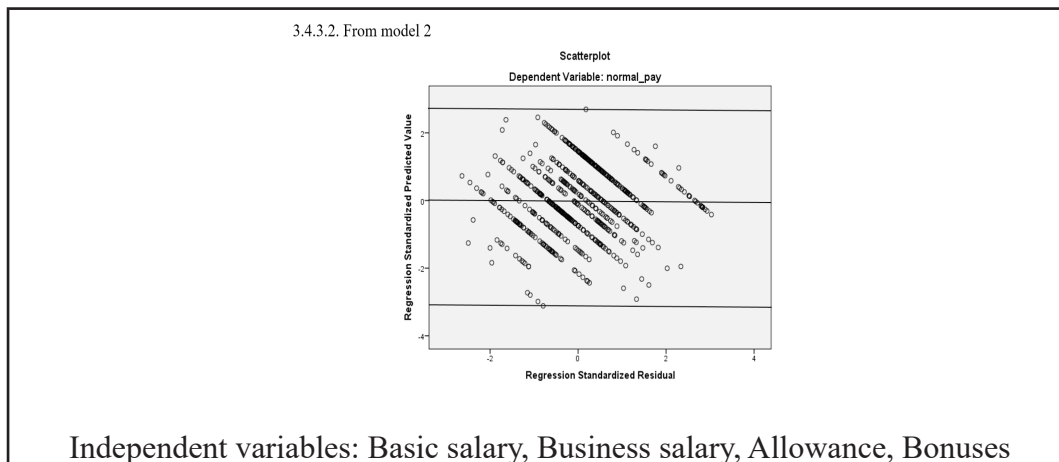
### **Linearity and homoscedasticity**

According to Hair et al. (2014) and Pallant (2010), these assumptions of linearity and homoscedasticity between variables can be checked from residual scatterplots that are generated in the multiple regression process. Relationships between the independent variables and the dependent variable are linear when the presentation in the P-P Plot of the regression standardized residual shows a straight line (Hair et al. 2014). The dependent variable is homoscedastic if the presence of the residuals in the Scatterplot of the standardized residuals is roughly rectangular distributed (Pallant 2010).

The normal P-P Plots of regression standardized residuals of the four multiple regressions in the present study (Graph 1) all show a straight line. Therefore, the relationships between independent variables and the dependent variable in these regression models are linear.

**Graph 1: P-P Plots of regression standardized residuals (DV: Perception of pay equity)**

The Scatterplots (Graph 5.2) of the standardized residuals in the four multiple regressions show that the distributions of the residuals are roughly rectangular. Therefore, the dependent variable is homoscedastic in these regressions.

**Graph 2: Scatterplots of the standardized residuals (DV: Perception of pay equity)**

### Testing the Hypothesis

To investigate relationships between salary components and perceptions of pay equity, a multiple regression was conducted. Outcomes of the multiple regression on sub-independent variables in the salary group are presented in Tables 4, 5, and 6. Table 4 presents the general information for the multiple regression examinations of relationships between basic salary, business salary, allowance, bonus, and the perception of pay equity. After controlling for demographic factors, the model explains 45.4% of the variance of perception of pay equity, as the R square of the model is 45.4.

**Table 4: Model summary<sup>c</sup> (IVs: Components of salary)**

Model	R	R Square	Adjusted R Square	Std. Error
1	0.261a	0.068	0.059	0.71975
2	0.674b	0.454	0.446	0.55252

Predictors: (Constant), Location, gender, Schooling, Age, Type, Current position, Allowance, Basic salary, Bonus, Business salary

Dependent Variable: Perception of pay equity

Table 5 provides information on the significance of the model for testing the Hypothesis. The sig. value of this model is 0.00 referring to the p-value being less than 0.0005, indicating that the model is statistically significant (Pallant 2010). In other words, there is a direct relationship between salary components and perceptions of pay equity in Vietnamese SOEs.

**Table 5: ANOVA (IVs: Components of salary)**

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	162.299	10	16.230	53.163	0.000 <sup>c</sup>
Residual	195.076	639	0.305		
Total	357.375	649			

Predictors: (Constant), Location, Gender, Schooling, Age, Type, Current position, Allowance, Basic salary, Bonus, Business salary

Among salary components, Table 6 indicates that basic salary, business salary, and allowance, have sig. values less than 0.05, thus these variables have a statistically significant contribution to the variance in the perception of pay equity. Only the sig. value of bonus, at 0.068, is greater than 0.05; thus the effect of bonus on the perception of pay equity is not statistically significant. Among basic salary, business salary, and allowance, the effect of business salary is the strongest, then followed by the effect of basic salary.

**Table 6: Coefficients<sup>a</sup> (IVs: Components of salary)**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.742	0.247		3.002	0.003
Gender	0.077	0.045	0.052	1.733	0.084
Age	-0.027	0.015	-0.060	-1.834	0.067
Schooling	-0.012	0.014	-0.027	-.845	0.398
Current position	0.083	0.028	0.101	2.937	0.003
Type	-0.103	0.052	-0.066	-1.993	0.047
Location	0.047	0.051	0.032	.916	0.360
Basic salary	0.272	0.049	0.244	5.591	0.000
Business salary	0.284	0.051	0.263	5.619	0.000
Allowance	0.174	0.048	0.151	3.641	0.000
Bonus	0.090	0.049	0.081	1.827	0.068

a. Dependent Variable: Perception of pay equity

The regression outcomes support the Hypothesis. Among salary components, there are direct relationships between basic salary, business salary, allowance, and perceptions of pay equity. Statistical evidence clearly shows that business salary has the strongest influence on the perceptions of pay equity, followed by the influence of basic salary.

## DISCUSSION AND CONCLUSION

Previous studies found that if the employees are satisfied with their salary received from work they are satisfied with their overall compensation (Heneman 1985; Summers & DeNisi

1990; Milkovich & Newman 2005). In line with these studies, the quantitative study in this study indicates that salary significantly affects the employee perception of pay equity. This study's findings present that all four salary components have direct relationships with the employees' perceptions of pay equity. Among the four components, business salary has the strongest impact. Business salary is the salary that an employee received based on their performance, or in other words, this is the returns based on the employee's performance.

This finding is in line with findings from some research in other countries when it presents that business salary plays the most important role in enhancing employees' perceptions of pay equity. The finding is similar to that of research conducted by Scott et al. (2011), about the perceptions of reward fairness around the world. That research found that individual performance is a significant determinant of reward fairness, regardless of base pay or variable pay. Regarding base pay, Scott et al. (2011) found that the majority of their respondents agreed that work responsibility and individual performance significantly affected the perceptions of reward fairness. These authors also confirmed that the most important criterion affecting perceptions of pay equity is individual performance. The findings of this study show that SOEs should pay more attention to designing their compensation based on employees' performance. If the pay differentials within a firm are not able to be explained by previous employee performance, the result may be employee dissatisfaction with pay, which causes a high level of absenteeism (Della et al. 2015). This study's findings highlight the vital role of performance-based pay to create perceptions of pay equity among employees in Vietnam's SOEs.

Fairness of salary policies and practices is a crucial factor influencing the employees' attitude and behaviour at work. The findings of this study show that SOEs managers need to be aware of the impacts of salary on employee perceptions of pay equity that might affect the company's performance and efficiency. They should consider that the fairness of the compensation system is one of the main objectives, to motivate their employees. The study findings suggest some recommendations to improve the employee perceptions of pay equity in SOEs via using salary policies and practices. SOE management should focus on the fairness of the salary procedure. Results of this study confirm that employees are more likely to perceive their compensation to be equitable if they see the business salary as being fair. Therefore, practising managers should pay attention to calculating business salary that is majorly based on the employees' performance. In other words, the performance pay base should be a key determinant in calculating salary. To create and maintain the employees' perceptions of pay equity the enterprises have to pay attention to their fairness of compensation policies and practices.

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# ASSESSMENT OF CORPORATE GOVERNANCE IN VIETNAM STATE-OWNED ENTERPRISES

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**Abstract:** *A comprehensive corporate governance index (CGI, 0–35) is constructed to measure the quality of corporate governance practices of the publicly-traded Vietnam State-owned enterprises (VSOE) during period of 2016–2020. We survey all firms' corporate governance practices and manually collect governance data for listed VSOE in Hochiminh Stock Exchange (HOSE) and Hanoi Stock Exchange (HNX) to construct the CGI, which comprises four sub-indices and 35 elements. The results show that VSOE have decent progress in the corporate governance during the study period. The overall CGI mean value in 2020 is 19.96 which present an increase 10% in 2016. Sub-index results show that governance is weakest in Shareholder rights and equal treatment among shareholders, with a mean value 3.64 despite of the huge progress in 5-year period. The Disclosure and Transparency subindex shows the highest score compared to other components.*

**Keywords:** *corporate governance, corporate governance index (CGI), Vietnamese state-owned enterprises*

## 1. INTRODUCTION

The state-owned-enterprise (SOE) sector is one of pillars in Vietnamese economy. It accounts for 28% of GDP, contributes nearly 30% of the state budget (General Statistics Office 2018), comprises 17% bank credit, and at the same time government-guaranteed SOE debt accounts for about 12% of public debt. In order to achieve the goal of being a market-based economy with a socialist orientation, the Government of Viet Nam has encouraged the active participation from the private sector in coupling with SOE reform to enhance their effectiveness and efficiency since the 1980s. Over the past 30 years, SOEs have contributed noticeably to the achievements of the “Doi Moi” which lifted the country out of socioeconomic crisis to move to the era of industrialization and modernization under the socialist orientation. However, this transition has posed enormous challenges to SOEs that adversely impact on the sustainability of economic development due to the low speed of their reforming and restructuring. Through the 30- year SOE privatization, the number of SOEs has declined significantly and they now tend to focus on crucial and core sectors of the economy, including electricity, minerals, petroleum, finance, food and telecommunications. There are successful cases of post-privatized SOEs, with improvement in enterprises' profitability and competitiveness; expanded production capacity; raised expertise and management competency;

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and some new industries and enterprises have been gradually formed with modern technology and advanced management. At the same time, the privatization process has encountered a number of impediments from the complexity of enterprise valuation, a lack of stringent regulations in information dissemination, a defective and deficient performance evaluation system and a lack of enabling stock market. This paper evaluates the corporate governance of VSOE that were listed in HOSE based on CGI and then proposes possible solutions to foster corporate governance practices among VSOE to shift to a more efficient and diversified economic system.

“Corporate governance, a term that scarcely existed before the 1990s, is now universally invoked wherever business and finance are discussed” (Keasey et al. 2005). Corporate governance has become a global phenomenon. The financial scandals and crises that have hit most countries pave the road for ongoing corporate governance interest. Governments worldwide are continuously developing corporate governance codes and guidelines or refurbishing those in existence (Mallin 2006).

The main sources of corporate governance legislation in Vietnam are the Corporate Law, the Securities Law, the Banking and Credit Institution Law, and several instructions and Regulations issued by the State Securities Committee and the State Bank of Vietnam. Currently, Vietnam lacks an index for corporate governance that can reflect the degree of governance applied inside listed VSOE and give vital information to stakeholders. Overall corporate governance of listed VSOE is a missing piece of information. No comprehensive measure exists to evaluate the degree of corporate governance used by policymakers. This CGI will judge how corporate governance reforms are working (Sarkar et al. 2012). It will help investors (local and foreign) evaluate the risk associated with deviating from proper corporate governance practices and determine their investment decisions. CGI can rank VSOE according to the degree of adopting best governance practices. Finally, the CGI can be used for research purposes and international ratings and rating agencies. For these reasons, we build the CGI for 250 listed VSOE for the period 2016 – 2020 using four crucial corporate governance mechanisms: Shareholder rights and equal treatment among shareholders; Role of stakeholders related to shareholders; Disclosure and Transparency; Responsibilities of the Board of Directors.

## 2. LITERATURE REVIEW

The literature on the importance and effect of corporate governance index is vast, but literature on constructing a comprehensive Corporate Governance Index for listed VSOE is still limited. Regarding to the CGI of emerging markets, the research of Ararat et al. (2016) and Black et al. (2019), are some of the main works in this area. For the CGI of VSOE, the work of Kien (2016), World Bank (2013) could be the be early studies in that field.

Ararat et al. (2016) study the Effect of Corporate Governance on Firm Value and Profitability in Turkey from 2006 to 2012, relying on hand-collected data covering the vast majority of listed firms. They build a Turkey Corporate Governance Index (TCGI), composed of five sub-indices for board structure, board procedure, disclosure, ownership, and shareholder rights. Ararat et al. main findings are that TCGI predicts higher market value (with firm fixed effects) and higher firm-level profitability with firm random effects. The disclosure sub-index is the principal sub-index that predicts higher market value and profitability and drives the Index results.

Black et al. (2019) find that well-constructed, country-specific “corporate governance indices” can predict higher firm values in emerging markets. Black et al. investigate four major emerging



markets (Brazil, India, Korea, and Turkey) and build an overall country-specific governance index. The overall index includes five subindices: disclosure, board structure, ownership structure, shareholder rights, board procedure, and control of related party transactions. The main findings are: (i) disclosure (especially financial disclosure) predicts higher market value across all selected countries, (ii) board structure (principally board independence) has a positive coefficient in all selected countries and only significant in two countries, (iii) ownership structure, shareholder rights, board procedure and control of related party transactions indices do not predict firm value.

World Bank (2013) presented The Corporate Governance Report on Standards and Codes (ROSC) for Vietnam benchmarks law and practice against the OECD Principles of Corporate Governance. The ROSC focuses on the companies listed on the Ho Chi Minh Stock Exchange and the Hanoi Stock Exchange. This report assesses Vietnam's corporate governance policy framework. It highlights recent improvements in corporate governance regulation, makes policy recommendations, and provides investors with a benchmark against which to measure corporate governance in Vietnam. The assessment confirms that Vietnam has made substantial progress in recent years, especially with respect to shareholder rights and equitable treatment and the overall corporate governance framework. However, it also finds gaps and that Vietnam continues to lag some other countries in the region.

The ASEAN Corporate Governance Scorecard (ACGS) – Vietnam Country Report 5-Year Assessment 2012 – 2017 provides the review results of ACGS assessments for the 5 years and specific focus of results of corporate governance assessment of year 2017 (Vietnam State Securities Commission, 2017). The ACGS was guided by the OECD principles of corporate governance, International Corporate Governance Network principles of corporate governance, and other globally accepted principles of corporate governance, which emphasize the substance of corporate governance of corporations. The sampling of report was 70 listed companies in 2017 accounts for 71% of the total market capitalization of the two stock exchanges. The scorecard was calculated based on 5 elements: Rights of Shareholders, Equitable Treatment of Shareholders, Role of Stakeholders, Disclosure and Transparency and Responsibilities of the Board. The report shows that Vietnamese public listed companies have improved corporate governance practices gradually over the years, with consistent improvement efforts by the companies and other stakeholders. Nevertheless, challenges are still apparent as the gaps of corporate governance performance between Vietnamese listed firms and their regional peers are still very significant. Besides, the report provides detailed analyses of areas focus on to improve corporate governance at listed firms.

### **3. METHODOLOGY AND DATA COLLECTION**

#### **3.1. Methodology**

The corporate governance index is built based on the reference to the Vietnam Corporate Governance Code of best practices (For public companies in Vietnam), the OECD Principles of Corporate Governance; OECD Guidelines on Corporate Governance in State-owned Enterprises, and the 2020 Corporate Governance Evaluation Criteria of the Ho Chi Minh City Stock Exchange. Overall, this indicator reflects the quality of compliance with the requirements of good governance.

CGI is composed of four sub-indices, which in turn include 35 elements. Elements suggested by previous literature and fit the Vietnamese environment are considered as potential indicators of good governance practices by corporations in Vietnam. Most variables are coded as “1” if a firm has the attribute and “0” otherwise. We construct a CGI for 50 listed VSOE in for period of 2016 and 2020 using information related to four important corporate governance mechanisms, namely: (1) Shareholder rights and equal treatment among shareholders, (2) Role of stakeholders related to shareholders, (3) Disclosure and Transparency, (4) Responsibilities of the Board of Directors. Then different elements inside each sub-index are determined. The elements of each sub-index reflect Vietnam-specific norms and institutions.

The indicator set consists of 35 questions and all variables are binary. If the answer to the question posed by the variable is true, the variable takes the value 1; otherwise, it takes on a value of 0. The score is then aggregated to determine the company’s CG index. The value of the governance index can range from 0 to 35. The details of the corporate governance index are presented in Appendix.

We construct the VSOE Corporate Governance Index (CGI) in two steps. In the first step, we construct a sub-index for each of the four corporate governance components selected. We specify the number of governance requirements according to best practices and the governance guidelines applied in Vietnam and existing literature. In each sub-index, we assign different numbers of questionnaires.

In the second step, we calculate the sub-index score by averaging score of 50 firms. We then sum-up the four sub-indices values to arrive at the overall Corporate Governance Index (CGI). The total CGI score is a sum of the sub-index scores

**Table 1. Distribution of questions about the contents of state-owned enterprise governance**

Components	Number of questions
A. Shareholder rights and equal treatment among shareholders	8
B. Role of stakeholders related to shareholders	8
C. Disclosure and Transparency	10
D. Responsibilities of the Board of Directors	9
Total	35

The content of the governance index consists of four main parts: A. Shareholders’ rights and equal treatment among shareholders. B. Role of stakeholders related to shareholders. C. Disclosure and transparency. D. Responsibilities of the Board of Directors.

- A. Shareholders’ rights and equal treatment of shareholders: According to the OECD, the corporate governance framework must protect and facilitate the exercise of shareholders’ rights and ensure fair treatment of all shareholders, including minority and foreign shareholders. In practice, the Board of Directors, the Board of Directors, and the controlling shareholder may have opportunities to engage in activities that increase their profits at the expense of non-controlling shareholders. control. Therefore, the protection and exercise of shareholder rights are important content to maintain investors’ confidence in ensuring their capital contribution will be approved by the Board of Management, members of the Board of Directors, or shareholders. assumes protective control, from misuse or inappropriateness. This content is assessed through the exercise of rights

for shareholders such as paying dividends on time, the right to access information of shareholders, and the right to contribute opinions and vote of shareholders.

- B. Role of stakeholders: Besides investors, employees, suppliers, customers, creditors, and other stakeholders also have common contributions. lead to business success. Therefore, enterprises need to recognize the contributions of these stakeholders, thereby respecting the interests of stakeholders and encouraging active cooperation between businesses and stakeholders to contribute a part to helping businesses develop sustainably and enhance corporate value in the medium and long term. This content of the governance index evaluates the assurance of the interests of customers, employees, the community (environmental issues), the development of the Code of Conduct, and the policy of reporting violations.

- C. Disclosure and transparency. Sufficient information disclosure to enhance transparency is an important factor to help shareholders exercise their ownership rights, helping the public to have more information about the structure and operations of the enterprise. Therefore, according to the OECD, the corporate governance framework must ensure the timely and accurate disclosure of information on all material matters relating to the company, including its financial position, performance, ownership, and financial position. ownership and corporate governance. On that basis, this content of the governance index evaluates the implementation of information disclosure by enterprises, such as the implementation of share ownership information, remuneration information, company charter information, information on members of the Board of Directors, and providing annual reports on time...

- D. Responsibilities of the Board of Directors: The Board of Directors is responsible for monitoring the effectiveness of management and delivering satisfactory returns to the shareholders, and overseeing the risk management system and systems adopted. built to ensure that the company complies with relevant laws. The Board of Directors must also pay attention to and fairly deal with the interests of stakeholders including employees, creditors, customers, suppliers, and host communities. Therefore, according to the OECD, the Corporate Governance Framework should ensure the strategic direction of the company, effective monitoring of the board's management, and the board's accountability to the company. company and shareholders. This content of the governance index assesses the performance of responsibilities of the Board of Directors, specifically through criteria such as ensuring the diversity of the BOD structure, separating the Chairman of the Board from the General Director, establishing an Audit internal...

To ensure the efficient and transparent operation of state-owned enterprises, state-owned enterprises are also encouraged to follow the same governance framework as other public enterprises. However, state-owned enterprises have their challenges in terms of governance, for example, state ownership can interfere too deeply in business operations, supervision, and management of SOEs is carried out. by ownership bodies (e.g. Ministries, Local Governments, or specific agencies). Therefore, based on the OECD guidelines for corporate governance in SOEs, the research team selected several common and datable criteria. The selected criteria are incorporated into the content of sections C and D.

An important limitation of the index is that the data is collected from annual reports and not from questionnaires collected directly from enterprises. Therefore, if a company displays a low

level of CG in the given index, it does not mean that the company has a poor level of CG. And, if a company ranks highly in the index, that doesn't necessarily mean that the company is truly committed to the best functioning of corporate governance mechanisms. What is recorded in the study is the extent to which the quality of corporate governance is perceived by outsiders without the judgment of insiders. A company may have a dedicated shareholder affairs body, but if it does not disclose this information in its annual report, the result will be this omission of this fact. management metrics. Another limitation of the built-in corporate governance index is the use of equal scores for questions. This method makes it easy to build management scores but may not be accurate in reflecting the different weights of each criterion in corporate governance.

### 3.2. Research sample data

Intending to study state-owned enterprise governance, based on the list of 733 public companies listed as of December 31, 2020, the research team shortened it to 140 state-owned enterprises listed on the stock market. State-owned enterprises according to the definition of state-owned enterprises in the Enterprise Law 2020. That is "State enterprises include enterprises in which the State holds more than 50% of charter capital, the total number of shares with voting rights according to the provisions of law. prescribed in Article 88 of this Law". Next, enterprises were excluded from the sample with the following criteria: (1) Enterprises operating in the banking and insurance sectors were excluded from the sample due to the accounting methods and criteria on the financial statements of different types. This company is quite different from the rest of the non-financial companies, so it will affect the research results. (2) Enterprises in which the state does not hold 50% of the capital during the 2016-2020 period. (3) Enterprises are not listed on the stock market continuously during the period 2016-2020. A total of 26 enterprises were excluded from the sample. Finally, the sample used the 50 largest listed state-owned enterprises by market capitalization. The order of enterprises by market capitalization is arranged according to the data updated on February 28, 2022, according to the page <https://fireant.vn/>. According to the research team, these 50 enterprises account for 33% of the market value of state-owned enterprises.

Research data is collected for the financial year 2016-2020, so the data used is a panel data with 250 observations. Due to the small sample size, study data were collected over many years to help increase the number of observations, thereby allowing meaningful statistical analysis. Much of the information is gathered from financial statements, annual reports, and management reports. Particularly for stock prices collected from <https://s.cafef.vn/>.

The corporate governance index of this study is built by self-scoring based on publicly available information about enterprises. The information is collected from corporate websites, annual reports, reports on corporate governance and many other business websites. If the information shows that the enterprise complies with the requirements of good governance, the indicator takes the value of 1; otherwise, it takes on a value of 0.

To facilitate data collection, the authors usually divide the indicators into two main groups. The first group includes indicators A1-A6, B9, and C23. All remaining indicators are in the second group. The first group is the indicators based on information related to the Annual General Meeting of Shareholders. The second group is the indicators based on the information in the annual report. For each firm, the first group would be graded in advance.

For indicator A1, the dividend payment date is collected on the website <https://finance.vietstock.vn>. The date of the Annual General Meeting of Shareholders is collected based on the Decision of the Annual General Meeting of Shareholders. If the gap between these two dates is less than 6 months, the company pays dividends on time and the score is 1. Indicators A2 and C23 are scored based on the website's information. The remaining indicators of the first group are graded based on documents of the Annual General Meeting of Shareholders, such as meeting invitations, resolutions, and meeting minutes...

Most of the indicators of the second group only need to be scored based on the annual report, but many indicators can be checked according to the website's information such as A7, A8, B11, B12, B13, B15, D31 and D33. Indicator C17 can be checked based on the corporate governance report.

#### 4. RESEARCH RESULTS

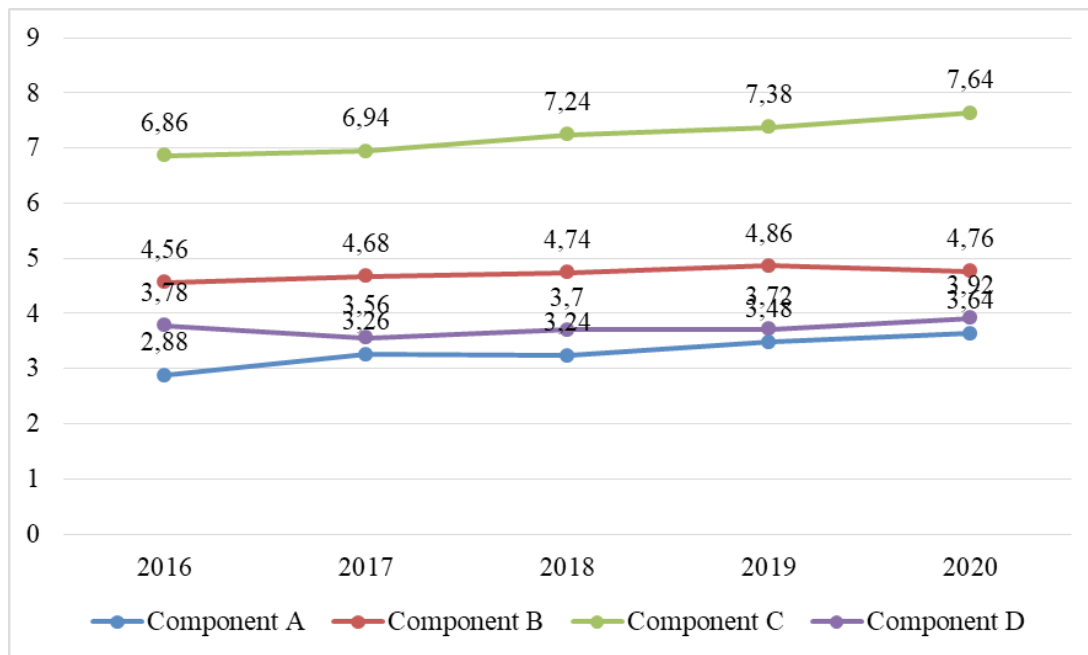
**Table 2. Descriptive statistics of CGI scores**

Year	mean	sd	min	max
2016	18.08	3.193	11	30
2017	18.44	3.394	12	29
2018	18.92	3.343	14	29
2019	19.44	3.447	14	30
2020	19.96	3.774	13	29

The average score of SOE governance increases year by year from 18.08 points in 2016 to 19.96 points in 2020. Although the quality of SOE governance has improved, it is still at a low level. In 2020, the average score of SOE governance is 19.96 out of 35 criteria, reaching 57%, which can be considered as low average corporate governance quality. This shows that there are still many issues that need to be improved in corporate governance so that state-owned enterprises can meet the principles of good governance in the region and the world.

The research team also observed dispersion in the quality of SOE governance in the period 2016-2020. That is, the standard deviation of CGI gradually increased from 3.193 in 2016 to 3.3774 in 2020. This represents a larger variation in the quality of SOE governance in 2020 compared to 2016.

In the trend of improving the quality of governance scores, the content with the highest increase is the component C-Disclosure and transparency, followed by the component A-Shareholder rights and equal treatment among shareholders. Component B-Role of stakeholders related to shareholders and D-Responsibilities of the Board of Directors has slightly increased in the period 2016-2020. In terms of compliance, businesses tend to comply with component C better than the rest components.



**Figure 1. Average governance score of each section for the period 2016-2020**

Regarding the content “A. Shareholder rights”, 100% of enterprises comply with the indicator A5, which is to clearly announce the voting rate in the Annual General Meeting of Shareholders. Most of the enterprises also comply with the indicator A1 and A2. On average, 45 out of 50 enterprises pay dividends on time and 35 out of 50 enterprises fully publish all documents of the General Meeting of Shareholders on their websites. In contrast, all the remaining indicators of content A are only met by a few businesses. The number of enterprises satisfying the indicators A7 and A8 is, on average, about 8 and 11 enterprises respectively. This means that very few businesses instruct their shareholders to comment on the agenda of the annual general meeting of shareholders before the date of the meeting as well as do not disclose the information of new candidates for the Board of Directors and the Supervisory Board 10 days before the annual general meeting of shareholders. Businesses rarely comply with indicators A6, A7 and A8. In general, only about 5 enterprises satisfy these three indicators. It seems that enterprises are unaware of the importance of the Investor Relations department as well as investor conference and meetings. All of the above-mentioned issues show that protecting the interests of shareholders in SOEs needs to be considered more carefully.

The situation was reversed for content “B. Role of stakeholders related to shareholders”. Several indicators (including B9, B10, B12, B13, and B14) are met by the majority of enterprises. Businesses are more likely to disclose information related to audit candidate companies, environmental and social responsibility, and employee policies (health, safety and welfare policy; training policy; reward policy). However, enterprises are less likely to publish policies and practices to protect the interests of customers. Indeed, on average, only 10 enterprises comply with the indicator B11 and these enterprises are mainly telecommunications enterprises and utility companies. This indicates that enterprises that sell *goods and services directly to consumers tend to have motivations to protect* the interests of customers. Similarly, enterprises rarely issue a Code of Ethics/code of conduct. Another striking point is that no enterprises publish a misconduct reporting policy.

The compliance of enterprises with regard to content C is even greater than content B. Two indicators with the lowest compliance, around 50% of enterprises, are C20 and C60. Enterprises infrequently disclose the independence of the members of the Board of Directors as well as information about the State's shares in SOEs. The structure of corporate governance in SOEs would be more complicated than in private companies, therefore, the State's shares are important information to shareholders. Indicator C24 also need to be taken into consideration when the compliance rate is, on average, 27 out of 50 enterprises. Several enterprises still report biographical details of the executive board instead of the board of directors and this means that the enterprises still pay more attention to the executive board. All other indicators in content C are remarkably high and increase gradually over the period 2016-2020. Enterprises regularly provide full information on share ownership, shareholder structure and the independent audit.

In terms of content "D. Responsibilities of the Board of Directors", indicators D30 and D35 show the highest compliance with 48 and 49 enterprises respectively. The majority of enterprises assess the annual performance of the Board of Directors and separate the Chairman of the Board of Directors and General Director. Indicators with average compliance are D28, D32, and D34. In which, the assessment of D28 and D32 depend on the disclosure of information in the annual report, thus the reliability of these two indicators is low. For example, if the annual report does not provide biographical details of the head of the Supervisory Board, it can be concluded that he or she has no expertise/experience in accounting, auditing, or finance. However, this might be not the case in reality. Only a few businesses guarantee that at least one-third of the total number of board members are independent members. It appears that enterprises have not fully understood the requirements for independent members. The remaining indicators of content D are extremely low, with less than 6 enterprises complying with regulations. Enterprises barely disclose the process of searching, selecting, introducing, and nominating personnel for the Board of Directors. Likewise, enterprises rarely establish an Internal Audit Department, Human Resources Committee and Compensation Committees which support the board of directors.

The findings of our study are important to managers and policymakers. First, although the system of legal documents has relatively fully stipulated the basic requirements and principles of SOE governance according to international practices, improving the quality of governance is still difficult. As a result, SOE governance in Vietnam has not met international standards on corporate governance. Some SOE governance activities have not met the requirements of the Party's guidelines and the State's laws. In that context, the research results for the first time evaluate the performance improvement of corporate governance quality in the practice of state-owned enterprises in Vietnam. As mentioned above, during the period 2016-2020, the governance score in Vietnam has just reached an average level.

Second, in recent years, corporate governance has received more attention from politicians and legislators. The legal framework, such as Law On Enterprises 2020, on corporate governance, is revised according to international standards. Guidelines on good corporate governance in Vietnam have been developed and published. It is expected that these measures may help businesses improve better governance. The study results show that the corporate governance of SOEs in Vietnam has improved over the period 2016-2020, but the improvement has been slow. This shows that the efforts mentioned above may have led to positive results, however, there is still plenty of room to continue to improve the corporate governance of Vietnamese SOEs.

Third, the corporate governance indicators can suggest measures that SOEs need to take to improve governance quality in the coming years. To improve governance quality, SOEs should focus more on content A and D. Regarding content C and B, indicators such as B15, B16, C20, C26 and C26 need to be advanced.

Fourth, the governance self-scoring also provides deeper insight into the corporate governance practices of SOEs in Vietnam. The practice of corporate governance in Vietnam may take the form of countermeasures. For instance, an enterprise has an independent member on the board of directors, but this member cannot hold any important positions. The appearance of an independent member is only to respond to the recommendations of the listed company's governance. This may be due to businesses are not aware of the importance of governance.

## **5. LIMITATION AND FURTHER RESEARCH**

An important limitation of this research is that the data is collected from annual reports and not from questionnaires collected directly from enterprises. Therefore, if a company displays a low level of CG in the given index, it does not mean that the company has a poor level of CG. And, if a company ranks highly in the index, that doesn't necessarily mean that the company is truly committed to the best functioning of corporate governance mechanisms. What is recorded in the study is the extent to which the quality of corporate governance is perceived by outsiders without the judgment of insiders. A company may have a dedicated shareholder affairs body, but if it does not disclose this information in its annual report, the result will be this omission of this fact. management metrics.

Another limitation of the built-in corporate governance index is the use of equal scores for questions. This method makes it easy to build management scores but may not be accurate in reflecting the different weights of each criterion in corporate governance. Further, the corporate governance index is built mainly on four contents of common principles of corporate governance. However, as a matter of fact, the structure of SOE governance is more complicated than that of the private company. Indeed, in addition to the four content above, OECD guidelines on CG of SOE indicate three other contents: Rationales for state ownership; The state's role as an owner; and State-owned enterprises in the marketplace.

Final, the research sample is comprised of the 50 largest SOEs listed in the HOSE and HNX, thus the results might not be generalized to other smaller firms. A new SOE governance index can be constructed by including more indicators specialising in the content of SOEs and giving different weights to each criterion in corporate governance. Further research may be designed to collect data directly from enterprises via surveys. The sample might be expanded to capture a more comprehensive picture of SOE governance in Vietnam. Moreover, future studies can focus on identifying the factors that have an impact on CG quality and exploring whether or not an increase in CG quality may lead to better financial performance.

## **6. CONCLUSION AND DISCUSSION**

After collecting data and analyzing by statistical method, the research team has scored 50 current largest state-owned enterprises by market capitalization of Vietnam, from which some conclusions can be determined as follows:



(1) The corporate governance score of Vietnam's state-owned enterprises has steadily increased over the years from 2016-2020, but the average score is still low (57%).

(2) The dispersion of the scores increases gradually over the years 2016-2020, showing that the score groups have different changes.

(3) The score of group C - Disclosure and transparency outtakes to the other 3 groups, and is trending continue to extend.

This result shows that Vietnamese state-owned enterprises have both advantages and disadvantages in corporate governance: (1) improve the average CGI score; (2) invest more in 03 components A, B, D to have the same level of increase as component C:

- Continue to increase transparency and disclosure of the company's board of directors, CEO and supervisory.
- Ensuring the interests of shareholders and the relationship between shareholders and enterprises.
- Enhance the role and participation of stakeholders in the governance process.
- Administrative reform and corporate structure reform, enhancement of BOD's accountability and responsibility./.

#### APPENDIX: GRADING CRITERIA FOR CORPORATE GOVERNANCE

- A. Shareholder rights and equal treatment among shareholders
- B. Role of stakeholders related to shareholders
- C. Disclosure and Transparency
- D. Responsibilities of the Board of Directors

No.	Component	Criteria
1	A	Does the company pay dividends in full within 6 months from the end of the Annual General Meeting of Shareholders?
2	A	Does the company's website publish all documents of the General Meeting of Shareholders (a standard set of documents) including: (1) Invitation letter with meeting agenda, (2) Sample appointment of authorized representative to attend the meeting, (3) Draft resolution for each issue in the meeting agenda, (4) Report of the Board of Directors, Report of the Supervisory Board/UBKT (the file must be openable, with contents)
3	A	In the invitation to attend the General Meeting of Shareholders, are shareholders instructed to provide comments before the date of the meeting on the issue(s) discussed on the agenda of the General Meeting of Shareholders?
4	A	Do the GMS meeting documents provide information about new candidates for the Board of Directors and the Supervisory Board (if any) (minimum: age, training level, expertise, experience, date of the first appointment, a position as a member of the Board of Directors? is in office at another enterprise, independent) at least 10 days before the opening date of the General Meeting of Shareholders?
5	A	Does the company announce the voting results including the number of votes for, against, and blank votes for each draft content of the latest AGM?

6	A	Minutes of the General Meeting of Shareholders announcing the list of members of the Board of Directors, Supervisory Board, and CEO attending the meeting?
7	A	Does the company create conditions for shareholders to contribute ideas to the company (excluding complaints) outside the framework of the General Meeting of Shareholders (investor conferences, meeting programs ..)?
8	A	Does the company establish an Investor Relations (IR) department and disclose the contact details of the officer/department in charge of IR?
9	B	Is the list of audit candidate companies publicly disclosed at the AGM?
10	B	Does the company publish assessment reports related to environmental and social responsibility?
11	B	Does the company publish policies and practices to protect the interests of customers?
12	B	Does the company clearly disclose health, safety, and welfare policies and practices for employees?
13	B	Does the company clearly disclose policies and practices regarding training and development programs for employees and clearly state the results of the training (eg average hours spent on training)?
14	B	Does the company have a reward policy that is tied to the company's long-term performance rather than the short-term (financial and/or non-financial performance)?
15	B	Does the company issue a Code of Ethics/code of conduct that all leaders and employees of the company must comply with and clearly state that if there are violations, there will be sanctions?
16	B	Does the company develop and publish a misconduct reporting policy that allows all relevant parties to report misconduct?
17	C	Does the company provide information on the direct share ownership of each member of the Board of Directors, Supervisory Board, and Executive Board/General Director?
18	C	Does the company provide information on direct share ownership of major shareholders?
19	C	Does the annual report provide information on the company's shareholder structure (which can be classified by criteria: percentage of ownership; institutional shareholders and individual shareholders; domestic shareholders and foreign shareholders). outside; state shareholders and other shareholders)?
20	C	Does the annual report disclose the independence of the members of the Board of Directors?
21	C	Does the annual report disclose the remuneration, other benefits, and expenses paid by the company to each member of the Board of Directors, and the Supervisory Board (if any)?
22	C	Does the company disclose information in the annual report on time as prescribed?
23	C	The company's website publishes updated information (can be downloaded): Company Charter & Corporate Governance Regulations
24	C	Biographical details (minimum age, training qualifications, expertise, first date of appointment, relevant experience, and any other positions held by other BOD members in listed companies) of the BOD members are full disclosure provided?
25	C	Does the SOE clearly disclose the independent audit?
26	C	Does the company clearly disclose information about the State's shares in SOEs?
27	D	Does the company's board of directors ensure that at least one-third of the total number of board members are independent members?

28	D	The structure of the Board of Directors/Board of Directors should ensure the diversity of members with knowledge and experience in the law, finance, and business areas of the company.
29	D	Is the process of searching, selecting, introducing, and nominating personnel for the Board of Directors/Board of Members disclosed?
30	D	Does the Chairman of the Board of Directors/Board of Directors not concurrently hold the position of General Director?
31	D	Does the company establish the following committees: Human Resources Committee and Compensation Committee?
32	D	Does the head of the Supervisory Board/Chairman of the audit committee have expertise/experience in accounting, auditing, or finance?
33	D	Does the company have an Internal Audit Department?
34	D	Does the company disclose how it manages significant risks (such as financial, accounting, internal control, operations, information technology, environmental, social, and economic)?
35	D	Are the implementation of the annual Board performance and results evaluation published?

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# THE USE OF ARIMA FORECAST MODEL TO FORECAST THE ECONOMIC PROFITABILITY OF ASSETS AT LISTED PLASTIC ENTERPRISES IN VIETNAM

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**Abstract:** *The plastic industry is a potential industry of Vietnam in the recent period, the study and forecast of the economic profitability ratio of assets of listed companies in the plastic industry will help managers to provide solutions on capital use, improve operational efficiency, and save costs during operation. This paper uses the Box-Jenkins method to build an ARIMA model to forecast the Basic earning power ratio of listed plastic companies in Vietnam based on the quarterly data of listed plastic companies in the period 2011 - 3rd quarter of 2021. The results show that among the experimental estimation models, model ARIMA (0,1,2) for soft packaging plastics; model ARIMA (0,1,3) for food packaging plastics, PET and model ARIMA (0,1,0) for construction packaging plastics are the most suitable. The author used the model to estimate the economic return of assets in listed plastic enterprises to 2022.*

**Keywords:** *ARIMA, forecast, financial leverage, plastic industry.*

## 1. INTRODUCTION

In 2021, overcoming the challenge of the Covid-19 pandemic, Vietnam's plastic product exports in November 2021, reached \$440 million, an increase of 7.7% compared to October 2021 and an increase of 30.1% compared to November 2020. In general, Vietnam's total export turnover of plastic products in the first 11 months of 2021 reached about US\$4.42 billion, an increase of 34.2% over the same period in 2020.

However, Vietnam's plastic industry, especially the plastic packaging sub-sector, still has barriers limiting the industry's development, that is, it depends on imported materials (currently only 10-15% of raw materials are self-sufficient in the country), the number of models and product categories is still monotonous, and there are not many value-added products. Besides, plastic enterprises have not rationally used financial leverage. Financial leverage only has a positive effect when the spread  $(BEPR - r_{dt}) > 0$  and vice versa; If the enterprise increases the use of debt in the condition that the

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difference  $(BEPR - r_{dt}) < 0$  will have the effect of reducing ROE or EPS, thereby reducing the value of the enterprise. During the 2012-2021 period, at some point, maintaining a high debt ratio while the Basic earning power ratio (BEPR) of plastic packaging industry enterprises was lower than the interest expense had negative impact on ROE and corporate value, meanwhile, some enterprises do not have policies to increase debt mobilization in the condition that the enterprise's BEP value  $> r_d$  and tends to grow, hence creating lost opportunity to increase ROE.

In order to effectively exploit the potentials of Vietnam's plastic industry, the article aims to build an ARIMA model to forecast the Basic earning power ratio (BEPR) as a basis for decision-making on the management of plastic enterprises in the near future.

## 2. LITERATURE REVIEW

Financial forecasting is the forecasting of the financial indicators of an enterprise for a certain period in the future, which is an important contributing tool to the success of the business. There are many methods of making financial forecasts, which are: Financial forecast on the basis of detailed operating plans of enterprises; Financial forecast as a percentage of sales; Forecast by econometric model.

Some scientists have used econometric models to forecast fluctuations in indicators such as: M. F. Hassan, M. A. Islam, M. F. Imam, and S. M. Sayem (2013) forecasted wholesale prices of raw rice in Bangladesh; Tuesday Tran (2018) forecasted the central exchange rate USD/VND; Vuong Quoc Duy, Nguyen Van Vu An (2014) forecasted the amount of FDI into Tra Vinh province.

There is no forecasting method that gives completely accurate forecast results. Therefore, when making forecasts, analysts must accept a certain level of forecast error. According to Perry (2001), Beaver (2003), these forecasting results show a range of values and their probability distributions. Therefore, in forecasting the future economic situation, forecasters must decide which forecasting method to choose and how to combine information from different forecasts.

## 3. METHODOLOGY AND PROPOSED MODEL

In the framework of the research, the author proposes to use the ARIMA model and the Box-jenkins method to forecast the Basic earning power ratio BEPR of listed plastic enterprises based on the past data series. George Box and Gwilym Jenkins (1976) studied the ARIMA (Autoregressive Integrated Moving Average) model. Building the ARIMA model as a basis for forecasting the average profitability of the plastic packaging industry:

The p-order autocorrelation model (abbreviated as AR(p)) is a linearly dependent process of the lagged values and random errors, which is explained as follows:

$$Y_t = \phi_1 Y_{t-1} + \phi_2 Y_{t-2} + \dots + \phi_p Y_{t-p} + \delta + \varepsilon_t \quad (1)$$

The q-order moving average model, abbreviated as MA(q), is a process that is fully described by a weighted linear equation of the current random errors and its lagged values. The model is written as follows:

$$Y_t = \mu + \varepsilon_t - \theta_1 \varepsilon_{t-1} - \theta_2 \varepsilon_{t-2} - \dots - \theta_q \varepsilon_{t-q} \quad (2)$$

This means that the value of  $Y$  at time  $t$  depends not only on current information, but also on past information. However, the most recent information is more meaningful than the previous information. Thus, the MA models provide the predictive value of  $Y_t$  on the basis of a linear combination of past error values, whereas the AR models predict  $Y_t$  as a linear function of the past values of  $Y_t$  itself. The AR and MA cointegration model (ARMA) has the following form:

$$Y_t = \phi_1 Y_{t-1} + \dots + \phi_p Y_{t-p} + \delta + \varepsilon_t - \theta_1 \varepsilon_{t-1} - \dots - \theta_q \varepsilon_{t-q} \quad (3)$$

ARMA models can only be executed when the  $Y_t$  series is stationary. However, most time series of economic and financial data are trend series, that is, the mean value of  $Y_t$  between periods can be different. In other words, time series in economics and finance are often non-stationary ones. Therefore, to deduce stationary series, we must remove the trend factor in the original data series through the process of taking the difference. A series stationary at the difference of order  $d$ , we have the symbol  $I(d)$ . Then, the ARIMA model is denoted ARIMA ( $p, d, q$ ).

The Box-Jenkins method consists of four iterative steps: (i) Experimental model identification, (ii) Estimation, (iii) Diagnostic testing and (iv) Forecasting.

Step 1: Model recognition ARIMA model recognition ( $p, d, q$ ) is about finding the appropriate values of  $p, d$  and  $q$ . Where  $d$  is the order of difference of the investigated time series,  $p$  is the order of autoregression and  $q$  is the order of the moving average. The determination of  $p$  and  $q$  will depend on the graphs  $SPAC = f(t)$  and  $SAC = f(t)$ , where  $SAC$  is the sample autocorrelation function (Sample Autocorrelation) and  $SPAC$  is the partial autocorrelation function of Sample (Sample Partial Autocorrelation).

The choice of model  $AR(p)$  depends on the  $SPAC$  graph if it has a high value at the lags  $1, 2, \dots, p$  and then suddenly decreases, and the  $SAC$  function form is decreasing. Similarly, the  $MA(q)$  model is selected based on the  $SAC$  graph if it has a high value at the latency  $1, 2, \dots, q$  and decreases sharply after  $q$ , and the  $SPAC$  function form is decreasing.

Step 2: Estimate the parameters of the ARIMA model ( $p, d, q$ ). The parameters of the ARIMA model will be estimated by the least squares method.

Step 3: Check model diagnostics based on Schwarz criteria (BIC) and mean square error (RMSE). The smaller these indicators are, the better the forecast model matches the actual value.

Step 4: Forecast. Based on the equation of the ARIMA model, determine the predictive value of the point and the confidence interval of the forecast.

In this study, the author used SPSS software to analyze the secondary data. Secondary data is collected through the financial statements of 14 listed companies in the plastics industry in the period 2011 - 2022 according to data of 543 BEPR observations (of 3 business sectors of the plastic packaging industry) in quarters from 2011 to the first quarter of 2022.

From the results of the ARIMA forecast model, the author compares the BEP value of listed plastic companies in the soft plastic packaging sub-sector, food plastic packaging, PET, construction plastic packaging with bank loan interest rates in the period 2022 - 2024, specifically:

- If the Basic earning power ratio (BEPR) that the firm generates is greater than the cost of borrowing ( $r_d$ ), the increase in debt will have a positive amplifying effect and increase the rate of return on equity (ROE);

- If the Basic earning power ratio (BEPR) that the firm generates is less than the cost of borrowing ( $r_d$ ), an increase in debt will have a negative amplifying effect and cause a faster decline in the rate of return on equity (ROE).

From the comparison results, the author offers a solution on the use of financial leverage in enterprises in the plastic packaging industry in Vietnam.

## 4. RESEARCH RESULTS

### 4.1. Information about listed plastic enterprises

Listed plastic enterprises are divided into two main sub-sectors: the production of plastic packaging and construction plastics based on the company's main products. The authors selected the plastic packaging sub-sector with 14 listed companies in the packaging manufacturing sub-sector, including: AAA, RDP, SPP, PBP, PMP, DTT, TPC, TPP, NHP, BPC, BXH, VBC, BBS are the research subjects of the article.

**Table 1: Listed Plastic Packaging Enterprises**

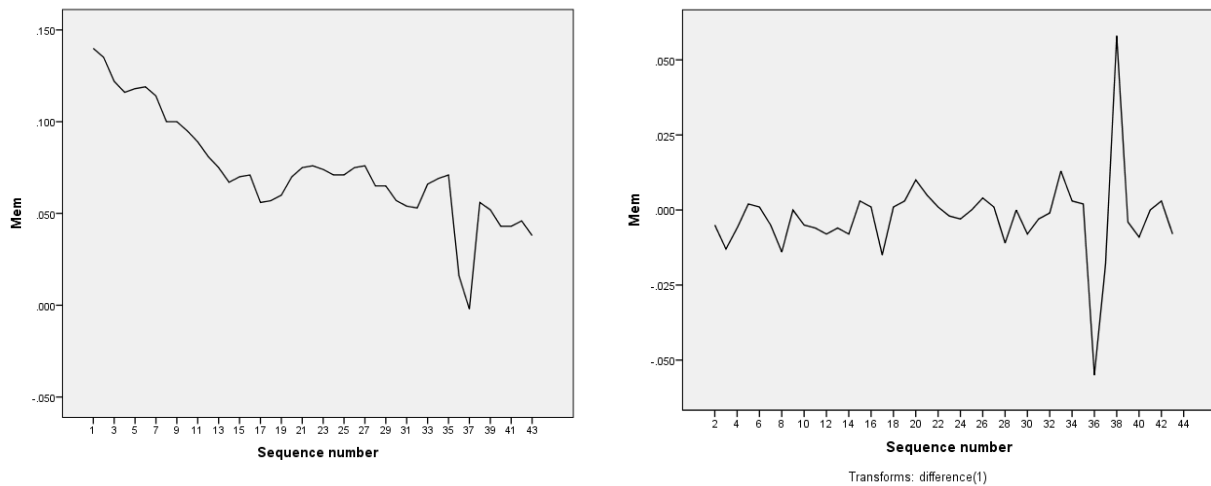
No	Industry	Company's name	Stock	Stock exchange	Listing year
1	Soft plastic packaging	Green An Phat Plastic Joint Stock Company	AAA	HOSE	2016
2		Holding/Rang Dong Holding Joint Stock Company	RDP	HOSE	2009
3		Saigon Plastic Packaging Joint Stock Company	SPP	HNX	2008
4		Vietnam Petroleum Packaging Joint Stock Company	PBP	HNX	2015
5		Phu My Protein Packaging Joint Stock Company	PMP	HNX	2015
6	Food plastic packaging and PET	Do Thanh Technology Joint Stock Company	DTT	HOSE	2007
7		Tan Dai Hung Plastic Joint Stock Company	TPC	HOSE	2007
8		Tan Phu Plastic Joint Stock Company	TPP	HNX	2008
9		Import-Export Production Joint Stock Company	NHP	HNX	2015
10	Construction plastic packaging	Bim Son Packaging VICEM Joint Stock Company	BPC	HNX	2009
11		VICEM Hai Phong Packaging Joint Stock Company	BXH	HNX	2009
12		Vinh Joint plastic packaging Stock Company	VBC	HNX	2010
13		But Son Packaging VICEM Joint Stock Company	BBS	HNX	2005
14		Da Nang Plastic Joint Stock Company	DPC	HNX	2009

### 4.2. Forecast results

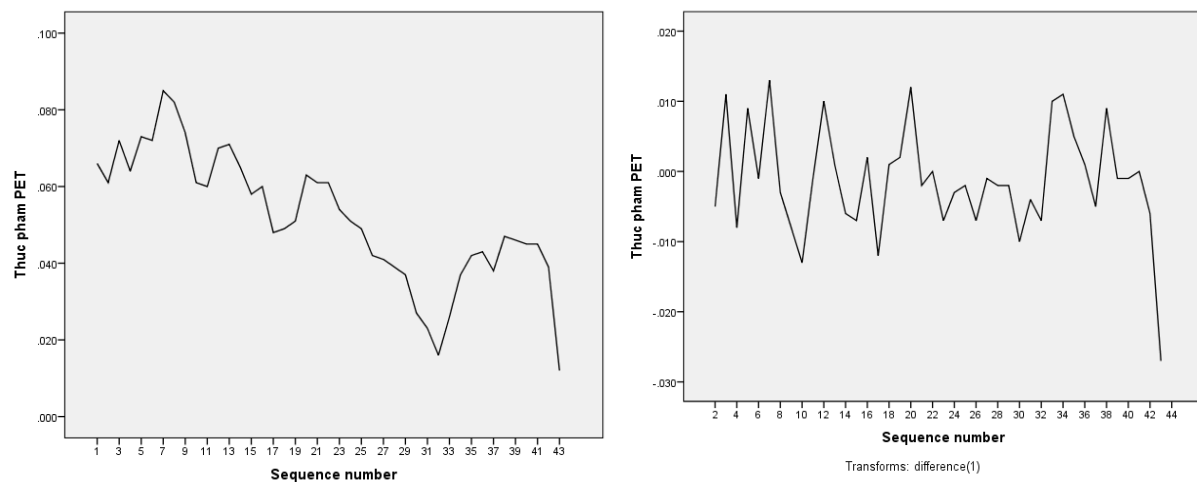
\* Test for stationarity: The data series used in the ARIMA model is assumed to be a stationary series. Therefore, to forecast the indicators using the ARIMA model, we need to consider whether the series are stationary or not.

Using SPSS software to check stationary series:

The results in Figure 1 show the evolution of the economic return of the assets of the plastic packaging industry by the fields of soft plastic packaging; Food plastic packaging, PET; Plastic packaging is not stable year by year. Specifically, the average is trending down. Thus, it can be speculated that the series of BEPs in the plastic packaging industry is non-stop.

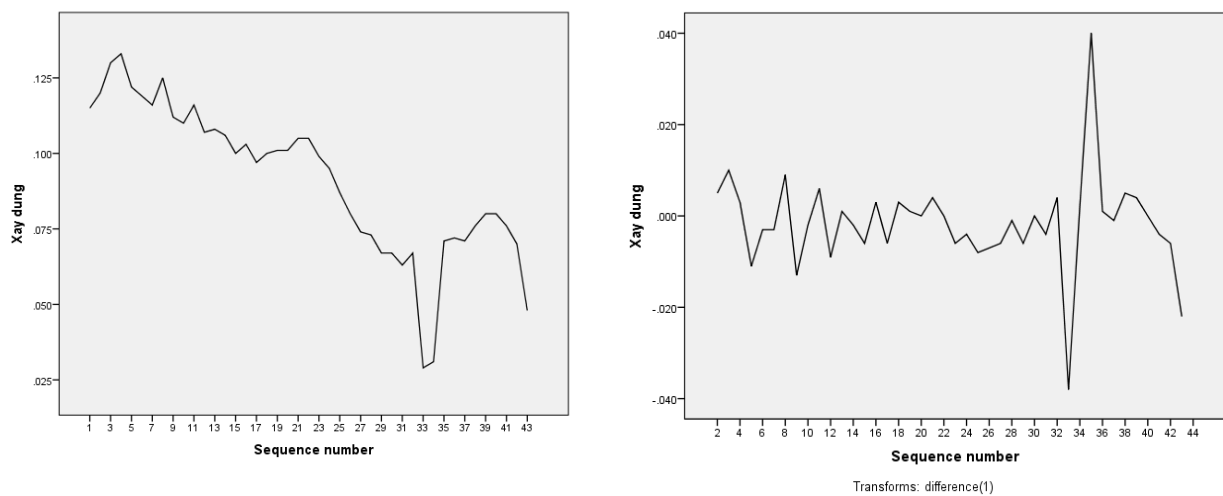


**Figure 1.1: Non-stationary BEP series and stopped BEP when taking first difference – soft plastic packaging**



**PET/ Figure 1.2: Non-stationary BEP series and stopped BEP when taking the first difference of order – Food plastic packaging, PET**





**Figure 1.3: Non-stationary BEPR series and stopped BEPR when taking the 1 difference – Construction plastic packaging**

To make the series stationary, take the first difference using SPSS software. When taking the first difference of this series, we get a new series, BEPR fluctuations in the plastic packaging industry, this series has no clear trend and revolves around an average value (Figure 1). This is seen as the expression of a stationary sequence.

\* Building the ARIMA model for the economic profitability of the assets of the plastic packaging industry

To build the ARIMA model, the author uses a data series of  $48 * 3 = 144$  observations from 2011 to the first quarter of 2022.

Step 1: Identification (determine p, d, q values)

The data series G stops at the first difference, we have  $d=1$ .

Method to determine p, q using SPSS software: Choose Analyze => Forecasting => Autocorrelations. Then convert the BEPR variable to the Variables box, click Difference => Autocorrelations => Partial autocorrelations. To determine the p, q values of the ARIMA model, it is necessary to rely on the ACF and PACF histograms.

To determine p, Box & Jenkins (1976) proposed the following identification method: A stationary series is autocorrelated of order p if (i) The autocorrelation coefficients decrease gradually in exponential or sinusoidal form, (ii) The partial correlation coefficients suddenly dropped to zero significant immediately after the delay p.

Similar to how p was determined, observe the autocorrelation plot of the BEPR series.

From the results of observing the PACF graph, the ACF graph, we get:

There are four ARIMA models that are suitable for the soft plastic packaging sub-sector: ARIMA (0,1,0); ARIMA (0,1,2); ARIMA (2,1,0); ARIMA (2,1,2).

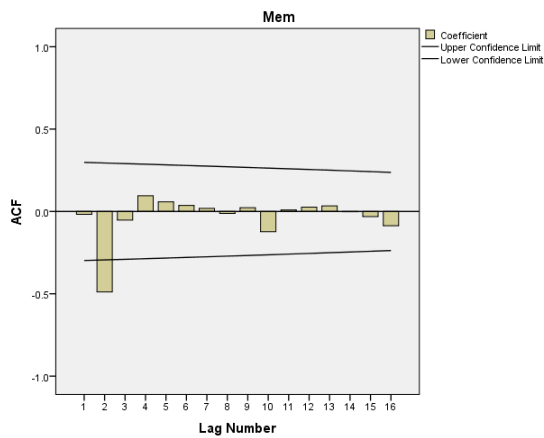


Figure 2: ACF graph – Soft plastic packaging

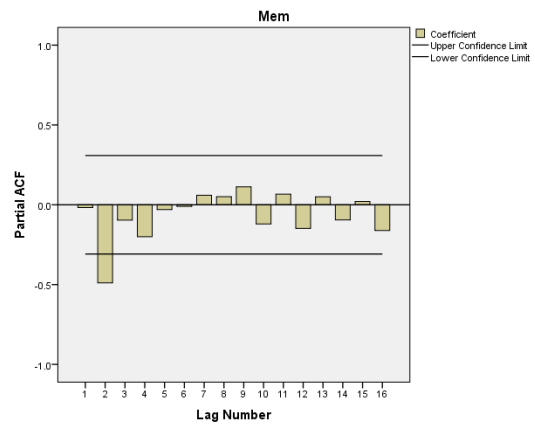


Figure 3: Graph of PACF- Soft plastic packaging

There are six ARIMA models that are suitable for the Food plastic packaging sub-sector, PET is ARIMA(10,1,3); ARIMA(0,1,3), ARIMA(10,1,10); ARIMA(0,1,10), ARIMA(10,1,13); ARIMA(0,1,13).

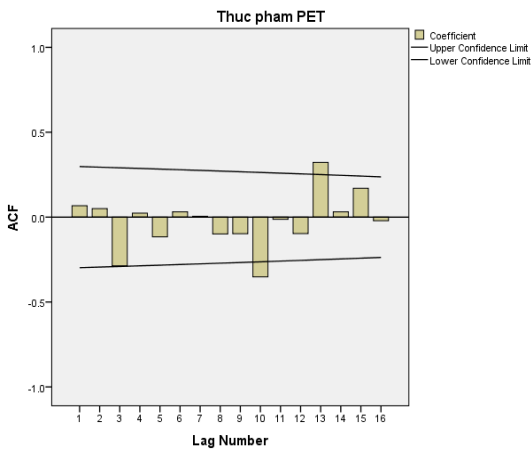


Figure 4: ACF graph- Food plastic packaging

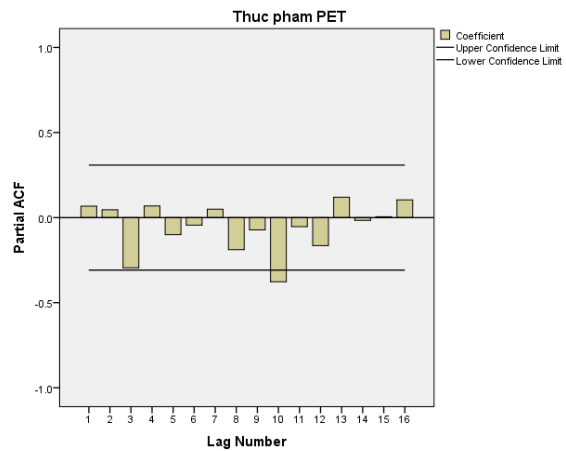
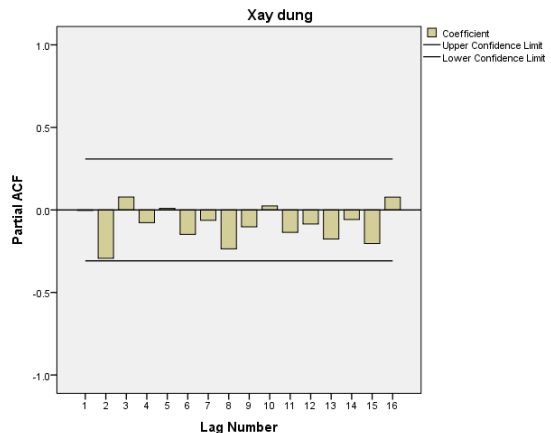
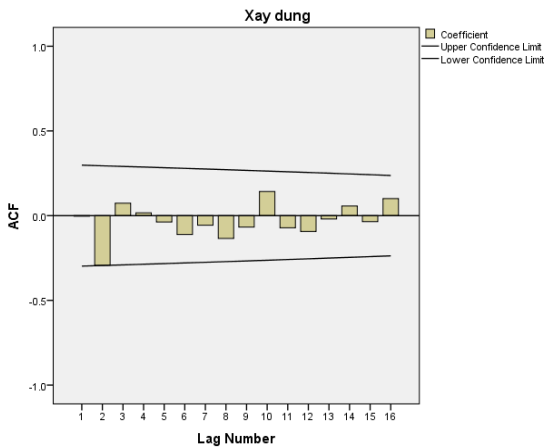


Figure 5: Graph PACF- Food plastic packaging

There are two ARIMA models that are suitable for the construction plastics sub-sector: ARIMA(0,1,0); ARIMA(0,1,2).



**Figure 6: ACF graph – Construction plastic packaging**      **Figure 7: ACF graph – Construction plastic packaging**

**Step 2: Estimate the model**

Using SPSS software to estimate the coefficients of the ARIMA models(p,1,q) as identified above. Select Analyze => Forecasting => Create Models. Then put the BEP variable into the Independent Variables box, in the method box select ARIMA and select Criteria. The author estimates models for the economic returns of BEP assets of the soft plastic packaging, food, PET and construction plastic packaging sub-sectors.

**Step 3: Check diagnostics**

To check the fit of the models, based on Schwarz criterion (BIC) and mean square error (RMSE). In which: BIC is an estimate of the following probability function of the model being true, under a given Bayesian setup, so a lower BIC means that a model is considered likely to be a true model. RMSE (root mean square error): Variance or standard deviation of the forecast series compared with reality. The smaller these indicators are, the better the forecast model matches the actual value.

After estimating the ARIMA models, we have the following summary table of statistical results:

Based on the results of Table 2, the soft plastic packaging sub-sector uses the ARIMA model (0,1,2); food packaging, PET sub-sectors using the ARIMA model (0,1,3); The construction plastic packaging sub-sector uses the ARIMA model (0,1,0) because it has the smallest BIC and RMSE values.

**Table 2: Statistical results of some standards of the tested ARIMA models**

<b>Model ARIMA(p,d,q)</b>	<b>BIC</b>	<b>Adjusted correlation coefficient (R2)</b>	<b>RMSE</b>
<b>Soft plastic packaging sub-sector</b>			
(0,1,0)	-8,525	0,763	0,013
(0,1,2)	-8,603	0,824	0.012
(2,1,0)	-8,578	0,820	0.012
(2,1,2)	-8,397	0,827	0.012
<b>PET/Food plastic packaging sub-sector, PET</b>			
(10,1,3)	-8,356	0,831	0,008
(0,1,3)	-9,321	0,797	0,008
(10,1,10)	-7,591	0,847	0,009
(10,1,10)	-8,599	0,811	0,008
(10,1,13)	-7,105	0,833	0,01
(0,1,13)	-8,350	0.83	0.008
<b>Construction plastic packaging sub-sector</b>			
(0,1,2)	-8,885	0,838	0,01

(0,1,0)	-9,010	0,822	0,01
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Step 4: Forecast

Medium-term forecasts of BEPR value based on the ARIMA model (1,1,2) for the soft plastic packaging industry; ARIMA (0,1,3) for food plastic packaging, PET; ARIMA (0,1,0) for the constructionplastic packaging industry is presented in Table 3 and Figure 8.

**Table 3: Forecasting results of BEP value of listed companies in the plastic packaging industry**

**Forecast**

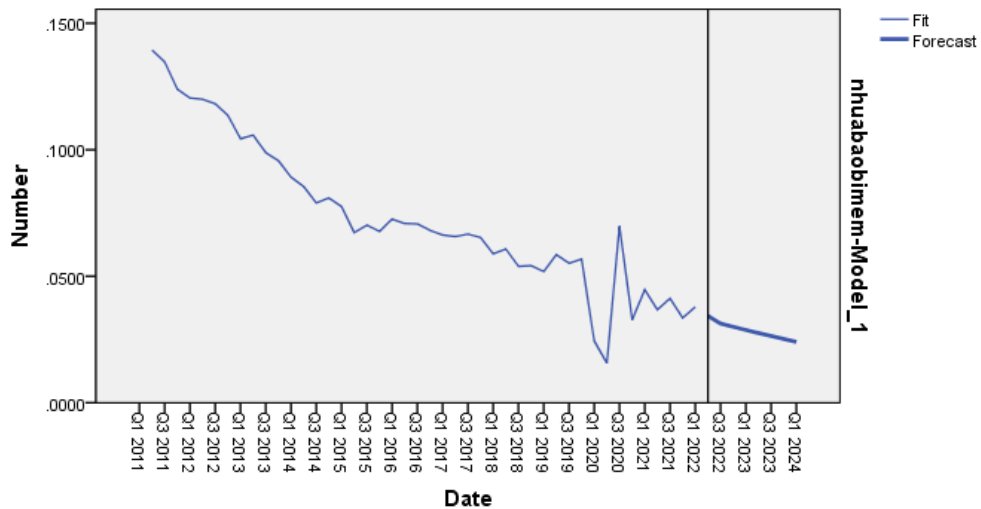
Model		Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023	Q1 2024
nhuabaobi- mem- Model_1	Forecast	.03 31	.03 11	.02 90	.02 68	.02 47	.02 25	.02 04	.01 82
	UCL	.05 71	.06 42	.06 34	.06 26	.06 17	.06 08	.05 98	.05 88
	LCL	.00 92	-.00 19	-.00 54	-.00 89	-.01 23	-.01 57	-.01 90	-.02 24

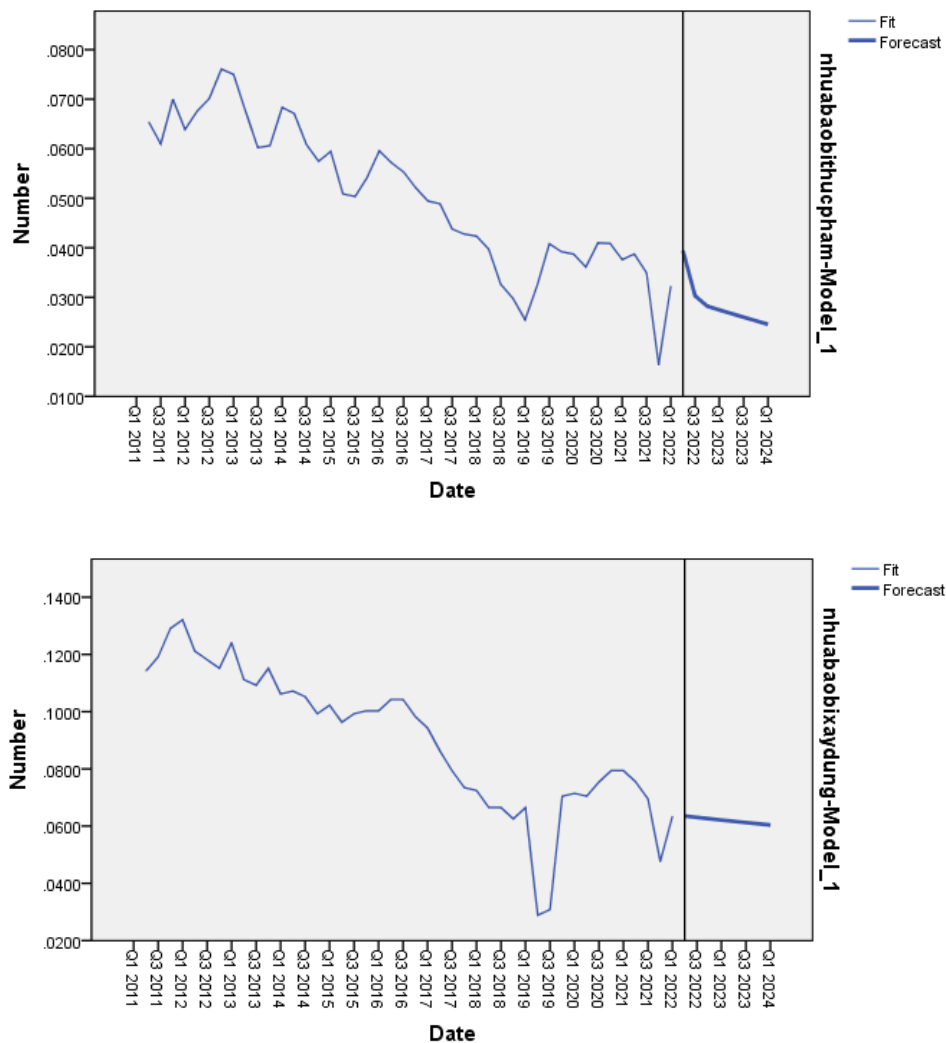
**Forecast**

Model		Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023	Q1 2024
Nhuabaobi thucpham- Model_1	Forecast	.03 94	.03 03	.02 82	.02 74	.02 67	.0260	.02 53	.024 5
	UCL	.05 80	.05 02	.04 86	.04 76	.04 66	.0456	.04 47	.043 7
	LCL	.02 37	.01 45	.01 23	.01 18	.01 13	.0108	.01 04	.009 9

**Forecast**

Model		Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023	Q1 2024
Nhuabaobi xaydung- Model_1	Forecast	.06 35	.06 31	.06 26	.06 21	.06 17	.06 12	.06 08	.06 04
	UCL	.08 79	.09 82	.10 62	.11 29	.11 89	.12 43	.12 93	.13 39
	LCL	.04 23	.03 41	.02 83	.023 8	.02 00	.01 69	.01 42	.01 18





**Figure 4: Forecasting results of BEPR value of listed companies in the plastic packaging iRndustry**

Realizing that the BEPR forecast value of the production and business sectors of the plastic packaging industry by 2024 will reach the following levels: Soft plastic packaging (0.033; 0.018); food plastic packaging, PET (0.039; 0.024); Construction plastic packaging (0.063; 0.060). Currently, the average short-term lending interest rate in VND for a number of priority sectors is at 4.4%/year, even lower than the maximum short-term lending interest rate prescribed by the Government bank which is 4.5%/year.

Thus, in the period from 2022 to the fourth quarter of 2023, construction plastic packaging enterprises with a BEPR value forecasted at 6.0% - 6.3% (> Loan interest rate) should increase borrowing debt to increase ROE value with favorable development conditions for construction plastic packaging businesses when taking advantage of the Government’s support during the economic recovery period to overcome the consequences of the COVID pandemic including accelerating spending on infrastructure projects to help support overall construction output growth, with a focus on improving regional connectivity through rail, road and air transport infrastructure development, along with efforts to promote energy production, focusing on developing seaports with the goal of increasing domestic trade is expected to boost infrastructure construction market growth in the period 2022 – 2026.

For soft plastic packaging business; Food plastic packaging, PET, the average value of BEPR is forecasted to be lower than loan interest rates at banks, especially from the first quarter of 2023 onward, so in the coming time, soft plastic packaging business, food plastic packaging businesses need solutions to mobilize other sources of capital from retained earnings, issue new shares, etc. to avoid increasing debt, which negatively affects ROE.

## 5. CONCLUSION

This study uses panel data of 14 plastic companies listed in Vietnam in the period 2011-2021. The author uses the ARIMA model to forecast the BEPR value in the medium term. The results from the model show that the forecast value of BEPR to the first quarter of 2024 of 3 groups of plastic packaging sub-sectors based on production and business sectors namely Soft plastic packaging; Food plastic packaging, PET; Plastics for construction packaging and pointed out that Plastic packaging enterprises need to take advantage of the condition  $BEP > r$  to increase debt, soft plastic packaging companies; Food plastic packaging, PET need to be cautious in raising capital from debt in the coming period, because of  $BEP < r$  especially in the period of 2023.

In the condition that when Vietnam joins international trade agreements FTA, APTA, CPTPP, etc., the opportunity for plastic enterprises to access advanced technical technology and cheap raw material sources will open wide. However, the challenges of competition between domestic and international enterprises will increase, requiring the initiative and creativity in production and business to meet the requirements of quality and safety with the environment, only then will new plastic enterprises master the market and develop sustainably. The Ministry of Industry and Trade as well as the Vietnam Plastics Association need to have a close connection in providing analytical data, forecast the situation of plastic production and export in the country as well as the world, so that enterprises in the industry can come up with long-term development strategies, closely following the actual situation and demand from the market.

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# **PARENTAL DECISION ON THE CHOICE OF ENGLISH LANGUAGE TRAINING CENTERS: THEORETICAL MODELS AND SUGGESTED SOLUTIONS FOR CENTERS IN DANANG CITY.**

**Nguyen Thi Hong Thuy<sup>1</sup>, Assoc.Prof. Nguyen Xuan Trung<sup>2</sup>**

*Abstract: Foreign language learning has been in high demand among today's young people. Current language training goes beyond traditional school classes and takes place in foreign language centers, where expat instructors collaborate with Vietnamese teachers. The acquisition of new languages, including English, has therefore been effectively promoted. In Vietnam, parents have a decisive role in selecting an English language training center (ELTC) for their children, and they usually meticulously take into account several criteria before finally settling on the center. This study analyzes the models and suggests solutions to attract the choice of parents in Danang City.*

*Keywords: Solutions, Parents of learners, English language training centers*

## **I. RESEARCH BACKGROUND:**

The education sector is changing rapidly in all aspects with the main trends: popularization, marketization, privatization, and digitization. With the prospect of keeping abreast of world advancement, Vietnam's education and training are required to innovate comprehensively in the context of strong international integration. In alignment with this need, foreign language training is among the dimensions that should be drawn more attention to. The reality in Vietnam reveals English training for children are receiving growing attention and investment from parents, however, this is merely the case for some localities. Meanwhile, English language training centers (ELTCs) in Vietnam do not have a common framework in terms of curriculum, implementation, resulting in low training efficiency and a lack of attention from both parents and learners. In particular, early childhood English learning for young learners in a formal and methodical way seems to be not focused and scientifically developed, but remains undetermined. Numerous ELTCs in the city have taken proactive approaches to filter and enroll outstanding and ambitious learners. Simultaneously, the quality assurance conditions are also publicly enforced and transparently applied to attract students and especially their parents. Reality demonstrates that such educational institutions are experiencing several difficulties and obstacles as a result of a change in the student enrollment "market" caused by an increase in supply and a decrease in demand. While the tremendous increase in ELTCs has resulted in an increase in supply, the popularity of more appealing lan-

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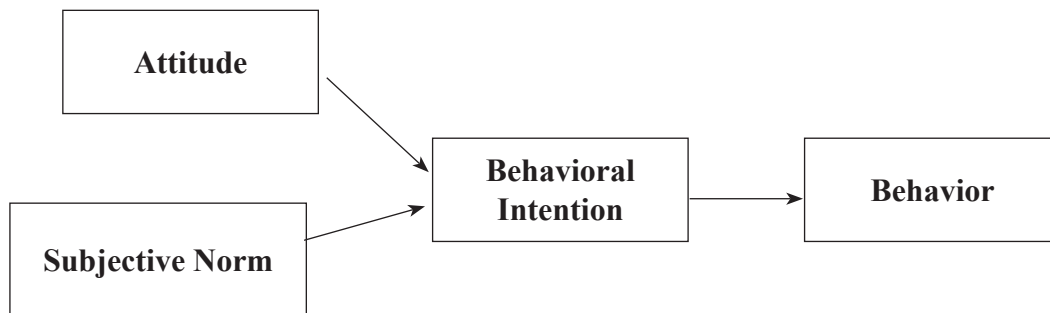
2 Vietnam Institute of Americas Studies (VIAS),

languages like Korean, Japanese, Chinese, and others has a detrimental impact on English demand. Furthermore, ELTCs have been devoting more money to marketing efforts that offer students with enough information as well as to building the businesses' brands in order to promote better social recognition. However, not all of these companies' efforts are in the proper direction. It is critical to identify the appropriate model and propose effective solutions to more productively attract parents and language learners to choose an ELTC in Danang City.

## 2. RESEARCH MODEL OF THE FACTORS INFLUENCING CHOICE DECISIONS

- **Theory of Reasoned Action (TRA)**

The implementation of TRA model is relatively effective and applicable in forecasting the consumer purchasing intention, in which the 'behavioral attitudes' and 'the subjective norm' are the two integral components. In order to evaluate the attitudes, the TRA model utilizes the perception of customers of the products' attributes. Since there is always a difference in attributes and benefits of distinctive products or services, customers are inclined to the products/ services that bring ultimate benefits to them and on a common basis, each attribute will have varying levels of significance. Therefore, on condition that the weights of the attributes are determined, the firm will be able to grasp the choice intention of its customers, which has significant implications for the implemented business policies. The trust of each individual customer in a product or service will have an influence on the behavior and attitude of that customer when settling a buying decision. This is also the factor that the theory of reasoned action emphasizes as capturing attitudes allows businesses to interpret the reasons for customers' behavioral intentions. Furthermore, behavior intentions are the immediate precursors to behavior.



**Figure 1.1 Path model for the theory of reasoned action (Ajzen and Fishbein, 1980)**

- **Theory of Planned Behavior (TPB)**

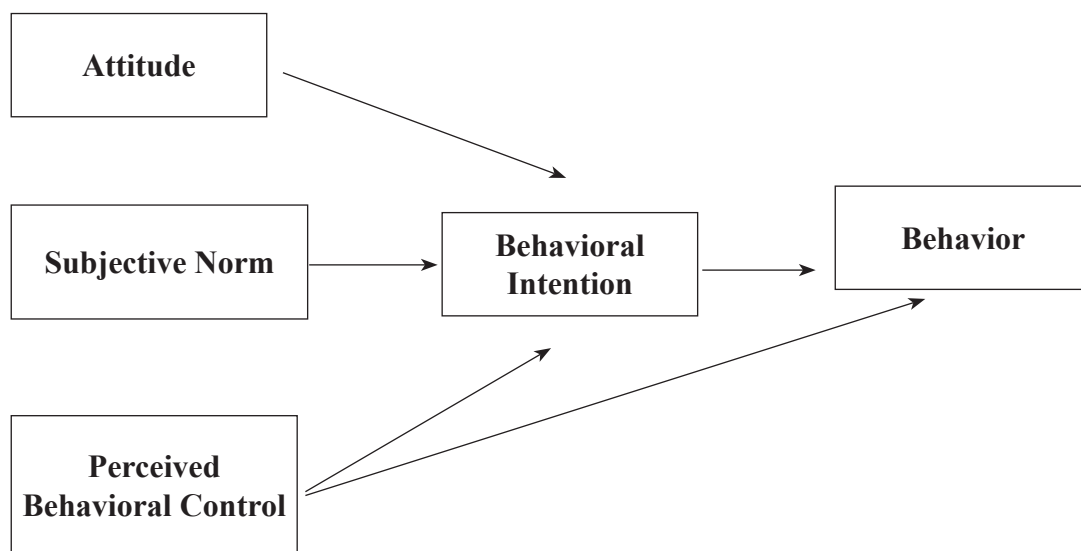
The development of the theory of planned behavior set its foundation on the theory of reasoned action (TRA, Ajzen & Fishbein, 1980), which assumes that a behavior can be predicted and explained by intentions. The theory mentions the motivational factors that influence a behavior as an indication of how hard people are willing to try. As a result, there are three determinants accounting for a behavioral intention:

Firstly, attitudes are measured through the belief in the attributes of the product; behavioral beliefs; subjective evaluation; an individual's positive evaluation of his or her performance of a particular behavior; Measuring trust in the attributes of the product; Actual behavior; Behavioral intentions.



The second factor is the social influence that refers to the perceived societal pressure to do or refrain from performing such behavior.

Lastly, the planned behavior theory was developed by adding the “perceived behavioral control” to the model of TRA, which demonstrates the ease or difficulty of performing a behavior. This is contingent on the availability of resources and opportunities to perform the behavior. Ajzen suggested that perceived behavioral control has a direct impact on the behavioral intention, and if the involved party is certain about their perceived behavioral control, behavioral control can be utilized to aid in the prediction of behavior.



**Figure 1.2 The theory of planned action (TPB, Ajzen, 1991)**

The TPB further assumes that the determinants of behavioral intention are respectively realized by the most prominent expectations and estimates of expectations for each of those components, in which the expectation about the attitude towards the particular behavior; or specific expectations about the outcome of performing the behavior; the expectation or subjective probability that a given referent individual or group approves or disapproves of performing the behavior under consideration; the expectation of perceived behavioral control concerning the factors facilitating or impeding performance of the behavior. Ajzen (1988) asserted that these expectations are the fundamental information of a behavior and that the underlying causes of a behavior is fundamentally owing to these expectations (Scholten, Kemp và Ompta, 2004). As a result, a shift in one of the expectations might lead to a shift in behavior. Few studies have sought to construct interventions to modify expectancies with the purpose of analyzing whether people change their behavior, according to this fundamental motive. Others explored the impact of interventionist policies by looking at how expectations changed after such policies were implemented.

TPB has been successfully applied to anticipate and comprehend various behaviors such as: electing decisions, weight loss, smoking cessation, traffic violation, etc. In the business sector, researchers commonly utilize TPB as a theoretical framework for their studies of business intentions, such as those of Autio et al. (2001); Luthje & Franke (2003).

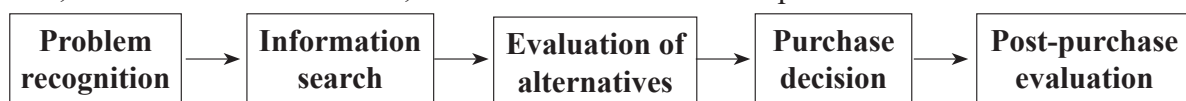
Limitations of TPB model:

Initially, TPB serves as an alternative to TRA's limits of behavioral control and assumes behaviors are intentional and planned. However, TPB was established based on the belief of the rationality of a human, ignoring the subconscious engines to be included in the model. Therefore, TPB has not fully covered the limitations of TRA (Krueger et al, 2000).

Secondly, practical factors for determining intentions are not limited only by attitudes, subjective norm and perceived behavioral control as Ajzen (1991). Consequently, many experimental studies indicated that only 40% of intended variation of behavior can be explained by the TPB of Ajzen (1991). Therefore, it has emerged that many variations of TPB, such as Davidson (1995) has added "business trust" component and proved to be a factor affecting business intentions.

- **Phillip Kotler's theory of Consumer Behavior**

Consumer behavior is described as the dynamic interplay of elements that alter perceptions, actions, and surroundings by which individuals transform their lives by Leon Schiffman, David Bednall, and Aron O'cass (1997). Consumer behavior, according to Peter D. Bennett (1988), is "the behavior that consumers express in discovering, obtaining, utilizing, and evaluating products and services that they expect to meet their particular needs". Consumer behavior, according to Charles W. Lamb, Joseph F. Hair and Carl McDaniel (2000), is a process that illustrates how consumers make decisions to select and eliminate particular products or services. According to Philip Kotler (2001), businesspeople study consumer behavior in order to recognize their needs, preferences, and habits, specifically realizing what consumers want to buy, why they buy that type of product or service, why they choose that brand name, how they buy it, where and when they buy, and how much they buy. The acquisition will be utilized to develop a marketing plan that would encourage consumers to choose their products and services. Comegys et al (2006) modeled the purchasing decision-making process, consisting of five stages: Needs recognition, Information search, Evaluation of alternatives, Purchase decision and Post-purchase evaluation.



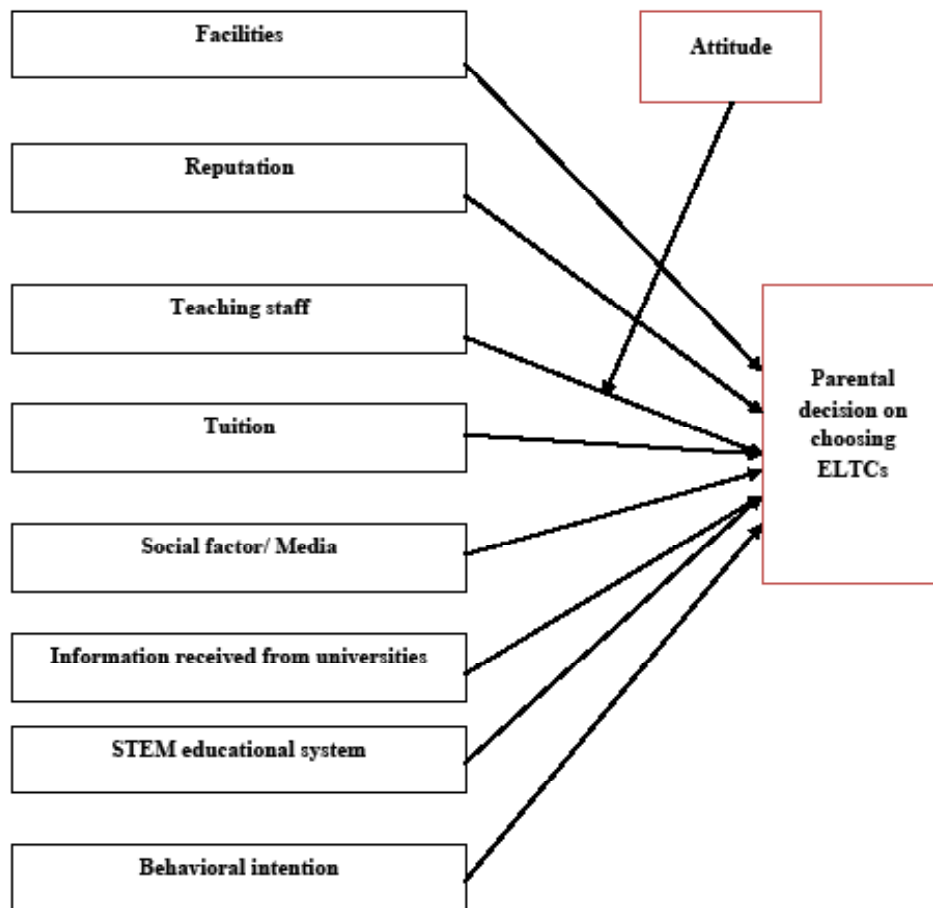
**Figure 1.3 Purchase decision-making process (Comegys et al, 2006)**

The theory of consumer behavior is used in a variety of research contexts, including: the act of selecting/using a specific product/service; the act of selecting a business/organization (supplier) or a brand; and the act of selecting a location (for studying, working, travelling, etc.). The present focus of consumer behavior research is not restricted to learning about the distinct, isolated behaviors that the customer does throughout the decision-making process, but is also expanding in the direction of understanding the consumer's attitude of choice (Roger, Paul, James, 1993). Today, behavioral intention is a widespread and successful method for properly anticipating customer behavior.

This study is based on Ajzen's theory of planned behavior (TPB, 1991), with preliminary research performed using qualitative methods and primary research conducted using quantitative methods. Preliminary research aims to regulate and validate the scale's correctness, properly identify factors that impact intention to choose an ELTC, and investigate the importance of integrating STEM Education into teaching and training. Furthermore, this research aims to reduce superfluous parts

while including new ones into the model. The quantitative research method’s goal is to emphasize numbers and figures in data collecting and analysis. The data was acquired from 235 samples — parents whose children attended courses at ELTCs in Ho Chi Minh City – using the convenience sampling method on a scale of eight districts. A 5-point Likert scale was used to assess responses to distinct variables connected to individual individuals’ perceptions. Following the collection of 235 samples, the data was processed and analyzed using Cronbach’s Exploratory Factor Analysis (EFA) and the Statistical Package for Social Science (SPSS) to evaluate the suggested study model. In the following phases, the authors used AMOS 20 to analyze CFA, SEM, Bootstrap, and Multigroups.

In the CFA analysis, the authors measured the proposed research model to assess the aggregate reliability, synergies and differential potency. Regarding the STEM model, the authors tested hypotheses related to the clause relationship and assessed the level of impact. As for the Bootstrap, the authors tested the proposed model again based on random sampling with replacement. Eventually, many analytical groups are utilized for two main reasons: (1) demonstrate that the STEM implementation has an impact on the intention to choose an ELTC (2) justify that there are differences between the groups of subjects: ELTCs with the STEM implementation and ELTCs without the STEM implementation. The research hypotheses include Facilities, Reputation, Teaching staff, Tuition, Social factors, Behavioral intention, Perception on root, Attitudes towards STEM, Effects of educational programs and Observed Variables during the research.



**Figure 1.4 Model of factors influencing parental intention to choose an ELTC: The role of STEM (Tran Do Van Anh et al., 2020)**

### 3. METHODOLOGY AND DATA

When researching the factors influencing consumer behavior, the theory of reasoned actions (TRA model) can be used to form the research factors and research model, based on the theoretical basis and overview of prime research works of Joseph (1998) and Joseph (2000), Karl Wagner et al. (2009), Joshep Kee Ming Sia (2011), and derived from the context in Vietnam. Including:

*Attitude* is defined as parental impressions of an ELTC's traits. Because the study respondents were parents of students, their opinions are based on their own experiences as well as information obtained through media outlets. This component may be divided down into secondary elements influencing parental behavior, such as parental perception of tuition, teaching staff perception, facility perception, training program perception, marketing activities perception, and so on.

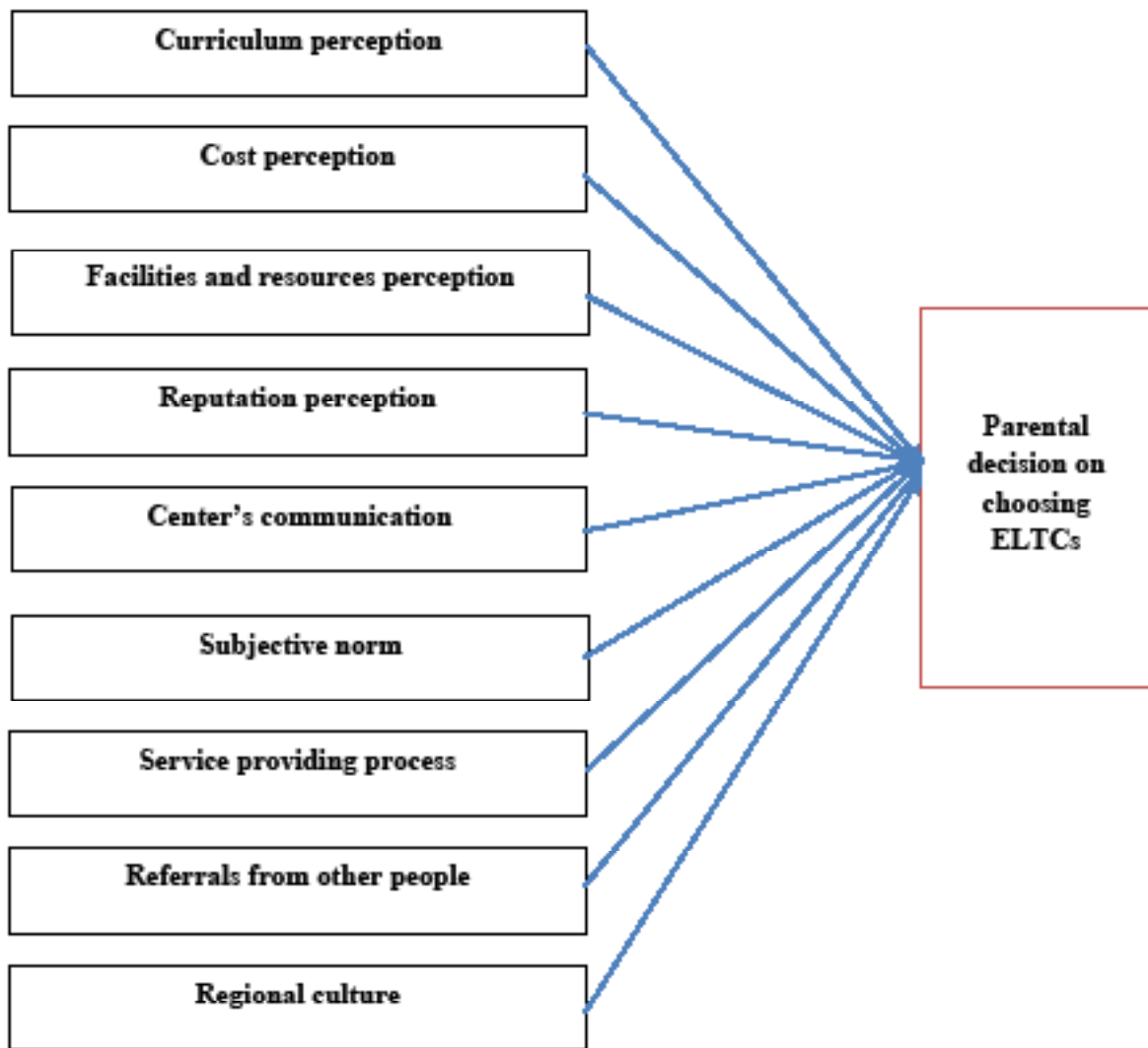
*Subjective norm* is the pressure imposed by society on each individual while deciding on a conduct (O'neal, 2007). In this context, subjective norm is defined as how parents feel about others (friends, neighbors, etc.) in terms of supporting or discouraging their choice of an ELTC. Although there has been no research in the globe or Vietnam indicating the effect of subjective norm on parental decision on picking an ELTC, each parental decision would be highly influenced by subjective norm since Eastern culture is regarded as a culture of degree.

Furthermore, since Vietnam's socioeconomic growth gradually integrates with the global economy, developing an enterprise's image has arisen as an emerging concern for firms. The more positive the company's image, the more likely people are to use its services. In particular, in Vietnam, clients, notably parents of students, place a high value on reputation. This is a competitive aspect in attracting "customers" to pick service providers since they are prone to enroll in centers with strong reputations.

The function of media in interacting with students in order to create behavioral intention, which leads to the behavior of picking the center to accept, cannot be underestimated by ELTCs. The amount of information students get determines whether or not ELTCs' attempts to transfer information to students were effective.

The amount of information received from those businesses influences the student's parents' final selection. Previous studies in Vietnam, however, frequently surveyed and highlighted the medium or channel of information from which parents of children may acquire information (through newspaper, online,...) rather than the aspect of analyzing the quantity of information ELTCs actively offer to parents.

The authors presented a study model based on the aforementioned causes, which included the following factors: cost perception, curriculum perception, facilities and resources perception, reputation, subjective norm, communication, referrals from other people, culture, and so on.



**Figure 2.1 Factors influencing parental decision of choosing ELTCs (Authors' proposal)**

The research model is as follows:

$$CQ = \beta_0 + \beta_1 \cdot DT + \beta_2 \cdot CT + \beta_3 \cdot CS + \beta_4 \cdot P + \beta_5 \cdot NL + \beta_6 \cdot QT + \beta_7 \cdot AH + \beta_8 \cdot TT + \beta_9 \cdot VM + \beta_{10} \cdot \varepsilon$$

In there:

Trong đó:

DT: The reputation of the ELTC

CT: Curriculum

CS: The ELTC's facilities

P: Price of the ELTC

NL: Human resources of the ELTC

QT: Service delivery process of the ELTC

AH: The influence of people around

TT: Communication of the ELTC

VM: Regional culture

CQ: The introduction of the relative

QD: Parents' choice of the ELTC

### **Data**

In the study, the larger the sample size the higher the accuracy of the study will be. In EFA studies, the sample size is normally at least 50, preferably 100, and the observation/measurement ratio is 5:1 (Hair et al, 2006). Some studies selected according to the formula of Tabachnick and Fidell (2007) with a sample size of  $n = 50 + 8 * m$  (where  $n$  is the sample size and  $m$  is the number of independent variables). In this research, the author uses the opinion of Hair et al (2006), which a sample of nearly 400 observations.

The research was conducted to make a questionnaire and send it to people in Danang through Google Form Drive. As a result, 399 responses were obtained, of which 64,41% were female. The number of survey respondents with main income from 11 to 20 million VND (accounting for 31,91%).

### **4. PROPOSED SOLUTIONS FOR ENGLISH LANGUAGE TRAINING CENTERS:**

Based on theoretical and empirical studies and originated from the educational environment characteristics in Danang City, in alignment with the orientation of education and foreign language training of Vietnam, the topic proposes sets of solutions, including the following 6 groups.

- (i) Diversify and adapt of curriculum
- (ii) Develop an appropriate pricing policy
- (iii) Strengthen the infrastructure system
- (iv) Build and develop the brand name of the ELTC
- (v) Promote and improve the effectiveness of promotional activities
- (vi) Promote the development of personnel strategy.

Reality reveals that such educational institutions are facing wide-ranging difficulties and challenges as a result of a shift in the student enrollment "market" that has been attributed to an increase in supply and a decline in demand. While the massive rise of ELTCs has resulted in a growth in supply, the popularity of more attractive languages such as Korean, Japanese, Chinese, and others negatively affects the demand for English. In addition, ELTCs have been dedicating more resources to marketing campaigns that provide students with sufficient information as well as to build the firms' brands to facilitate greater social recognition. However, not all efforts of these organizations are in the right direction. The solutions given in the topic have a specific purpose, assisting English center operators in efficiently developing and implementing strategies to persuade parents to choose an ELTC for their children while also improving the performance of such training centers in the future.

## 5. RECOMMENDATIONS TO DANANG AUTHORITIES

To satisfy the demands of English language learners, Danang must take the initiative to mobilize social resources in order to increase the effectiveness of English teaching and learning in the region. Danang must focus on and implement the following objectives:

(i) Specifying the prerequisites for establishing an ELTC in Danang City in terms of: agents being permitted to open a center in Danang, Legal foundation, Personnel requirements, Curriculum.

(ii) The Department of Education and Training should increase the inspection of ELTCs, promptly tackle inadequacies, shortcomings and errors. At the same time, reviewing the consultation of the city people's committee to license the establishment of qualified ELTCs and suspend operations for those that are not eligible to operate (source: thanhtra.com)

(iii) Facilitate training and teaching collaboration between ELTCs and the public high school system, which both provide chances for those centers to develop and satisfy the requirements for improving the quality of English language education in the city.

## CONCLUSION

*To present solutions associated with consumer choice behavior, research works focused on elements influencing customer choice decisions have been approached from various points of view, perspectives, and breadth. Most options for attracting students and parents to select ELTCs include: improving curriculum quality; teaching personnel; facilities; appropriate pricing policy; reputation; communication... However, in order for ELTCs to properly implement these solutions, the role of management agencies must be enhanced in the future through more effective management policies.*

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# CAPITAL RESTRUCTURING IN THE VIETNAM BANK FOR AGRICULTURE AND RURAL DEVELOPMENT: AN EMPIRICAL ANALYSIS

PhD. Candidate Nguyen Quoc Viet<sup>1</sup>

**Abstract:** *Vietnam Bank for Agriculture and Rural Development (Agribank) is one of the biggest commercial banks in Vietnam which support the Government to promote the development of not only the agricultural sector but also improving the living standards of rural citizens. Because it is owned by the Vietnamese government, the capital structure of this bank is different from the joint-stock commercial banks. In this paper, the author would like to focus on analyzing the current status of capital restructuring of Vietnam Bank for Agriculture and Rural Development to find out the achievements and limitations. Then, the author will propose several solutions to improve the way to the capital restructuring in the bank to maximize its potential. This study has been conducted with the secondary data obtained from the financial statements and annual reports of the Vietnam Bank for Agriculture and Rural Development for the period 2017-2021.*

**Keywords:** *capital restructuring, bank equity, profitability, bank performance, capital structure.*

## 1. INTRODUCTION

Financial market globalization has created a highly competitive environment for international commercial banks. In such a climate, the financial performance of commercial banks as a whole has become crucial (Harker and Zenios, 2000; Isik and Hassan, 2002). To reduce their expenses, commercial banks must work more effectively and efficiently. To be competitive in this environment, they must grow, implement new technologies, and offer new products and services. In actuality, the banking systems of a great number of developing nations are still very weak and ineffective in this competitive market. To address this issue, financial restructuring, particularly capital restructuring, was implemented to enhance the financial performance of banks (Denizer et al., 2007; Isik and Hassan, 2002; Zhao et al., 2010). The capital restructuring activities will assist banks in improving their financial performance, allocating resources more effectively, initiating innovations, increasing profits, enhancing customer service quality, and preserving the stability of the financial system (Osoro, 2014). In many instances, financial restructuring is no longer an option; it is, in fact, one of the essential steps for the survival and expansion of a bank (Rogovsky et al., 2005).

After over 33 years of construction and growth, up to now, Agribank is the leading State-owned commercial bank in Vietnam in all aspects, the only commercial bank that the State holds 100% of charter capital. In 2013, the Governor of the State Bank issued Decision No. 53/QD-NHNN on restructuring Agribank under the project of restructuring the whole system (Decision

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No. 254/QĐ-TTg dated March 1, 2012, of the Prime Minister). Over 5 years since the time that Agribank started to restructure, the bank has gained several achievements which have enhanced its vital position of Agribank in the Vietnamese banking system. Agribank has nearly 2,300 branches and transaction offices present in all regions, and is the only commercial bank present in 9/13 island districts, with nearly 40,000 officials and employees. As of December 31, 2020, total assets reached over VND 1.57 million billion; capital source reached over 1.45 million billion dong; total outstanding loans to the economy reached over 1.21 million billion VND, of which nearly 70% of outstanding loans were for investment in agricultural and rural development [20].

This paper will focus on the current state of capital restructuring of Agribank from 2017 to 2021 to assess the efficiency of capital restructuring conducted by the bank. Then, the author would like to suggest several solutions to support the capital restructuring of the bank in the future.

## **2. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES**

### *Capital structure of commercial banks*

Capital structure is the combination of debt and equity that achieves the stated managerial objective of maximizing shareholder value or wealth. The current price of the company's shares is a measure of the wealth of the shareholders. To achieve this goal, a company's management must make rational financing decisions regarding optimal capital structure, thereby reducing its cost of capital (Goyal, Rahman, and Kazmi, 2013). The pioneering work of Modigliani and Miller (1958) has influenced capital structure research. At the time, the authors argued that a firm's choice of capital structure has no positive impact on its value. This argument was premised on the absence of taxes, transaction costs, asymmetric credit market access, etc. Since then, three distinct explanations for this phenomenon have been proposed: the Static Trade-off, the Pecking Order, and the Agency Cost theories (Buferna, Bangassa, and Hodgkinson, 2005).

Since Modigliani and Miller (1958), numerous theoretical and empirical contributions have been made to the literature on capital structure. For non-financial firms, empirical research has largely centered on variables that are consistently correlated with leverage, such as age, size, growth, profitability, market-to-book ratio, collateral value, and dividend policy. The capital structure of banks, on the other hand, is a relatively unexplored topic in the banking literature. Then, to define the "capital structure" of a bank, it should be understood as the way a commercial bank finances its assets across the blend of debt, equity, or hybrid securities. The term "capital structure" of a bank is a combination of equity shares, preference shares, and long-term debts. Cautious attention has to be paid as far as the optimum capital structure is concerned with an unplanned capital structure, banks may fail to economize the use of their funds. Consequently, it is being increasingly realized that a bank should plan its capital structure to maximize the use of funds and to be able to adapt more easily to the changing conditions.

### *Capital restructuring in commercial banks*

Restructuring refers to several interrelated processes, including the recognition and allocation of financial losses, the restructuring of financial claims of financial institutions and corporations, and the operational restructuring of financial institutions and corporations. Recognition involves the allocation of existing losses and the wealth and control redistribution that follows. Capital restructuring is a type of business operational strategy that is employed to modify a company's capital structure, typically

in response to market shifts that have impacted the company's financial stability. This same strategy may also be used to reorganize capital assets to position a business for growth opportunities. This type of process aims to modify company finances and assets so that the business can operate more efficiently and progress toward its stated objectives (Malcolm Tatum, 2022).

With a commercial bank, the capital restructuring can be defined as: "*the modification of a commercial bank's capital structure either in response to changing business conditions or as a means to procure funding for the organization's growth initiatives*". Capital restructuring in the commercial bank is an operational approach primarily used to deal with changes that impact a business's financial stability. However, it can also be used to rearrange capital assets to position the commercial bank to take advantage of growth opportunities. In essence, capital restructuring in a commercial bank is done to change a commercial bank's holdings and finances. The goal is for the business to achieve its objectives while operating more efficiently.

### **3. METHODOLOGY**

The author used theoretical and practical research methods to form this article, details as below:

*Regarding theoretical research methods:* On the database, information is available in documents and documents by logical thinking manipulations to draw necessary scientific conclusions for the research problem. Specific methods included analytical method and theoretical synthesis; theoretical classification and systematization methods; hypothetical method and historical method.

*Regarding practical research methods:* Using methods directly applied to research problems in practice to understand the nature and law of the problem, such as scientific observation method, method of investigation, analytical method to summarize the experience, and consultation with experts.

To obtain this article, the authors used documents such as textbooks, and articles to provide conceptual and theoretical content as a basis for research. At the same time, based on research results that have been published in journals, topics, and reviews, the authors have made assessments about the current status of capital restructuring in Agribank during the chosen period (2017-2021).

### **4. RESEARCH RESULTS**

#### **4.1. The capital structure of Agribank from 2017 to 2021**

The period of 2017-2021 can be considered the most difficult time for the bank with huge challenges. From 2016 to 2020, Agribank implemented the restructuring plan associated with bad debt settlement for the period of 2016-2020 while facing many difficulties. Until 2020, Agribank's loans accounted for a large proportion of the total outstanding loans in agricultural and rural sectors in Vietnam with nearly 50% of the total outstanding loans in these sectors of the whole banking industry, making a great contribution to the development of the national economy, particularly, Vietnam's agriculture. And in 2021, the Covid-19 pandemic has complicated developments globally with new variations causing the world economy to be severely affected, and many countries and territories experiencing instability, slow recovery, and declining growth. The high inflation rate is due to the Governments' intervention measures, a rapid increase in the prices of essential

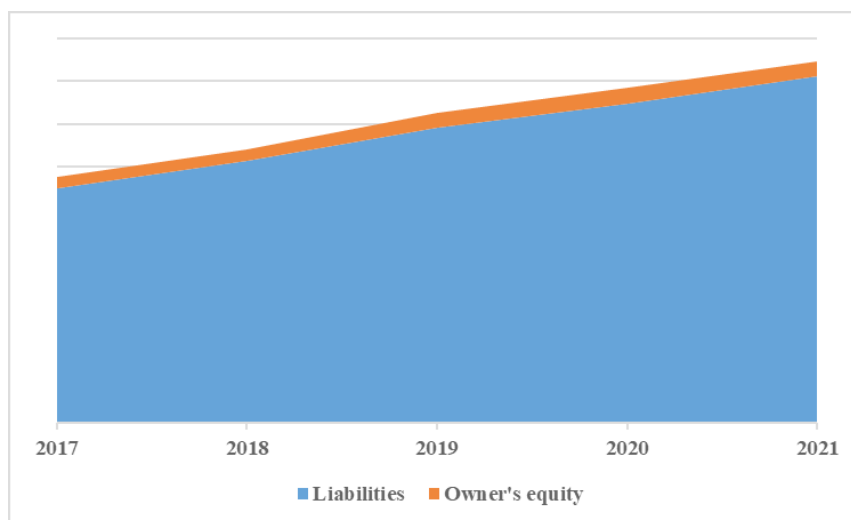
goods, and the shortage of both inputs and outputs in the supply chain due to social distancing and restrictions in economic activities. Even though the bank dealt with a lot of difficulties, Agribank has drastically, flexibly, and synchronously conducted many solutions to overcome challenges caused by the pandemic, contributing to economic growth and achieving the best of 2021 business goals thanks to the capital restructuring.

**Table 1: The total liabilities and owner's equity of Agribank (2017-2021)**

	2017	2018	2019	2020	2021
Liabilities (million VND)	1098256688	1224889244	1383807250	1495550246	1620388078
Rate of increase (%)	-	11.53%	12.97%	8.08%	8.35%
Owner's equity (million VND)	53691070	56707496	67618362	71416635	73843444
Rate of increase (%)	-	5.62%	19.24%	5.62%	3.40%
Total	1151947758	1281596740	1451425612	1566966881	1694231522

*Source: Summarized from the financial statements of Agribank (2017-2021)*

From 2017 to 2021, the total liabilities and owner's equity of Agribank increased dramatically, from VND 1,151,947,758 million in 2017 to 1,694,231,522 million in 2021, rising by 47,08%. The rate of owner's equity increasing is usually smaller than that one of liabilities increasing, except in the year 2019 when the retained earnings of Agribank soared and reached the highest value at VND 17,077,865 million during the period of three years, from 2017 to 2019. And generally, the liabilities still accounted for most of the capital of Agribank (always over 95% as figure below).



**Figure 1: The structure of the Agribank capital from 2017 to 2021**

*Source: Summarized from the financial statements of Agribank (2017-2021)*

#### 4.2. Restructuring the liabilities of Agribank from 2017 to 2021

Being owned by the Government, the borrowings of Agribank from the Government and the State Bank of Vietnam seem to be higher than the joint-stock commercial banks. However, between 2017 to 2021, Agribank achieved success in increasing extremely the financial mobilization from the market and decreasing the sources that belonged to the Government. Throughout the

sense of slow credit growth from 2020 to 2021, Agribank implemented a variety of strategies to increase fund mobilization by fund balancing, ensure business efficiency, reduce costs associated with facilitating credit fund flows, assist individuals and businesses in overcoming obstacles, and restore their production and business. Agribank closely monitored macroeconomic and market developments in order to proactively operate with flexibility, synchronize appropriate fee and interest rate instruments to reduce fund mobilization costs, and proactively reduce lending interest rates for customers affected by epidemics and natural disasters. Agribank's total mobilized capital in the market I (excluding the State Treasury's deposit) reached VND 1,580,777 billion as of 31 December 2021, an increase of 8.7 percent from the beginning of the year. Agribank maintained the largest market share of capital mobilization from residents and economic institutions among the Big 4 group of commercial banks, accounting for nearly 14% of the market share of capital mobilization in the entire banking industry (VND 11.23 million).

The structure of liabilities will be illustrated in table 2. The quality of mobilized capital has been improved in terms of structure, in line with the demand for capital use. Following the data presented in Table 2, deposits from customers are the main liabilities of Agribank, with proportions over 90% in the time of 2017-2021. The proportion of borrowings from the Government and the State Bank of Vietnam ranked second among the liabilities from 2017 to 2019, and then between 2020 and 2021, it collapsed suddenly and only remained at 0.31% (2020) and 0.09% (2021).

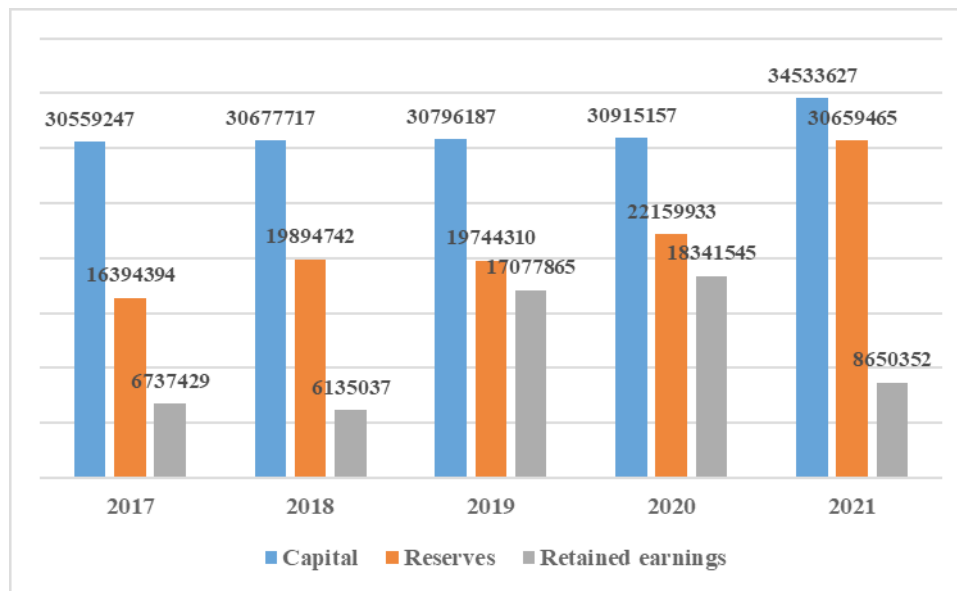
Agribank has deployed many solutions to adjust the capital mobilization structure in the direction of increasing the proportion of stable deposits with low costs, limiting deposits that cannot meet the demand for sustainable credit growth, and decreasing the financial burden. As a result, the mobilized capital in the market continued to grow steadily, higher than that of the commercial banking system, affirming the high level of trust of customers in Agribank's reputation and brand. Despite difficulties in raising capital at the beginning of 2021 due to a decrease in the resilience and resources of people and businesses and the prolonged impact of the pandemic, Agribank has promoted the advantages of branch network and human resources, increased access to and developed new customers in all economic sectors to open deposit accounts in association with the development and provision of banking products and services. By 31 December 2021, residential deposits reached over VND 1.5 million billion, which accounted for 95.38% of capital resources.

**Table 2: The liability structure of Agribank (2017-2021)**

Content	2017		2018		2019		2020		2021	
	Amount (million VND)	Rate	Amount (million VND)	Rate	Amount (million VND)	Rate	Amount (million VND)	Rate	Amount (million VND)	Rate
Borrowings from the Government and the State Bank of Vietnam	36468288	3.32%	50521162	4.12%	42152502	3.05%	4600777	0.31%	1417170	0.09%
Deposits and borrowings from other credit institutions	5896927	0.54%	7132376	0.58%	2600872	0.19%	2371200	0.16%	3239399	0.20%
Deposits from customers	1007850531	91.77%	1105665665	90.27%	1271868809	91.91%	1407513358	94.11%	1545474063	95.38%
Grants, trusted funds, and loans at risk from the Bank	7554040	0.69%	7171536	0.59%	6599919	0.48%	6271318	0.42%	5788025	0.36%
Valuable papers issued	16999525	1.55%	24794033	2.02%	28156702	2.03%	40241874	2.69%	28560772	1.76%
Other liabilities	23487377	2.14%	29604472	2.42%	32428446	2.34%	34551719	2.31%	35908649	2.22%
Total liabilities	1098256688	100%	1224889244	100%	1383807250	100%	1495550246	100%	1620388078	100%

Source: Summarized from the financial statements of Agribank (2017-2021)

### 4.3. Restructuring the owner's equity of Agribank from 2017 to 2021



**Figure 2: The structure of the Agribank owner's equity from 2017 to 2021**

Source: Summarized from the financial statements of Agribank (2017-2021)

**Table 3: The proportion of owner's equity of Agribank (2017-2021)**

Content	2017	2018	2019	2020	2021
Capital	56.92%	54.10%	45.54%	43.29%	46.77%
Reserves	30.53%	35.08%	29.20%	31.03%	41.52%
Retained earnings	12.55%	10.82%	25.26%	25.68%	11.71%
Total owner's equity	100%	100%	100%	100%	100%

Source: Summarized from the financial statements of Agribank (2017-2021)

From Figure 2 and Table 3, the capital and reserves accounted for the large proportions of the total owner's equity. During the research period, the retained earnings of Agribank fluctuated widely, with the smallest amount of VND 6,135,037 million and the highest one of VND 18,341,545 million. In 2021, the owner's equity structure has changed obviously with a more balance between capital and reserves because Agribank increased the charter capital from VND 30,709,923 million to VND 34,328,393 million, rising by 11.78%. The increase in charter capital by VND 3,618,470 is a wise decision, both helping to change the owner's equity structure, and preparing to offset the amount of VND 3,590 billion granted by special bonds since 2003, the interest rate of 3.3% and being expired at the end of 2023.

Based on the observations, the reserves of Agribank included three main funds, an investment fund, a reserve fund to supplement charter capital, and a financial provision fund. Then, Agribank has a solid capital foundation along with the initiative in managing and operating the balance sheet, which will be a vital premise for the Bank to implement equitization and a launching pad for Agribank to develop strongly in the future.

## 5. DISCUSSION AND CONCLUSION

The capital restructuring of Agribank has conducted between 2017 and 2021, which brought a lot of advantages to the bank. For example, by the end of 2020 Agribank completed over 109.11% of the pre-tax profit plan, Agribank's total assets reached nearly VND 1.6 million billion; mobilized funds from customers amounted to over VND 1.4 million billion; total outstanding loans to the economy reached around VND 1.2 million billion and the retained earnings at VND 18,341,545 million (the highest point of 2017-2021). Agribank's loans account for a large proportion of the total outstanding loans in agricultural and rural sectors in Vietnam and account for nearly 50% of the total outstanding loans in these sectors of the whole banking industry, making a great contribution to the development of the national economy, particularly, Vietnam's agriculture.

However, the capital structure of Agribank has still not had a sharp change. To assure that Agribank can continue to hold the position of the main commercial bank in Vietnam, meeting international standards; improving competitiveness, operating with high efficiency; safe, stable, and sustainable development; strengthening and enhancing Agribank's brand value and reputation in domestic and international markets, the bank should continue to improve the capital restructuring strategy to get the optimal capital structure which not only enhances the bank's profitability but also assures the requirements of Safety of principal. The new capital strategy should focus on restructuring liabilities towards efficiency and sustainability; managing capital balance flexibly and improving the efficiency of capital trading activities.

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# THEORETICAL FOUNDATIONS OF SUSTAINABLE POLICY CREDIT DEVELOPMENT IN THE CONTEXT OF VIET NAM

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**Abstract:** *Policy credit and sustainable development have a reciprocal relationship. Sustainable policy credit development means creating a policy credit model that best serves the country's sustainable development process in a long-term and effective manner. This paper provides a theoretical basis for the development of sustainable policy credit in the context of Viet Nam, including summaries and assessments of the concept of policy credit and sustainable development, the relationship between policy credit and sustainable development, the characteristics of sustainable policy credit, the contents of sustainable policy credit development and factors affecting the development of sustainable policy credit.*

**Keywords:** *policy credit, sustainable development, society, economy, environment*

## 1. INTRODUCTION

The concept of sustainable development, with key regulations developed since the 1950s, is one of the most prominent examples of the ecosystem approach, with reference to the most relevantly and controversially current theories in the development of human civilization. Sustainable development has become a challenge for developed countries, as it shows the need for the formation of a new economic system, the prominent feature of which is to take into account the environmental factors due to the potential depletion of the planet's resources and environmental pollution. For the first time, the idea of the negative changes of the environment on a global scale under the influence of human activities and the inability to separate economic and social development from the quality of the environment was scientifically recognized. The theory has caused great public reaction, its terms have been discussed at the international level, and the sustainable development of individual countries and regions has become an important aspect of international cooperation.

Among the current development trends, there is no denying the fact that sustainable development is becoming more and more globally accepted, and more countries are participating in the process. Decisions in this direction of the world will become binding on all nations. However, the role of some countries is different. Naturally, in this view, the developed countries are at the forefront of the trend because their environmental impact is the most significant and at the same time they have the most opportunity to take measures to realize sustainable development. However, developing countries also need to quickly grasp this trend and change the direction of economic development towards sustainability for the future.

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In the context of Viet Nam, the issue of sustainable development has been generalized into major guidelines and goals in the Document “Socio-economic development strategy for 10 years 2021-2030” at the 13th National Congress of the Communist Party of Viet Nam, in which stated the goals for Viet Nam to become “a country with dynamic, fast and sustainable economic development” and set specific targets on 03 aspects of sustainable development:

(a) Economic: GDP per capita at current prices by 2030 will reach about 7,500 USD; the proportion of the processing and manufacturing industry is about 30% of GDP, the digital economy is about 30% of GDP; total social investment averages at 33-35% of GDP; public debt does not exceed 60% of GDP; etc.

(b) Social: Human Development Index (HDI) is remained above 0.7; the average life expectancy is 75 years, of which the minimum healthy life time is 68 years; the proportion of agricultural laborers in total social labor drops to less than 20%; etc.

(c) Environment: Forest coverage rate is stable at 42%; the rate of treatment and reuse of wastewater into the river basin environment reaches over 70%; reduce greenhouse gas emissions by 9%; 100% of production and business establishments meet environmental standards; etc.

To achieve the above targets of sustainable development, it is necessary to synchronously carry out multiple solutions and tasks in many different fields, in which policy credit can play an important role as a financial tool to leverage development of the country towards sustainability on all three aspects, namely economic development, social development and environmental protection.

Stemming from the above practical requirements and general trends, this paper identifies the topic “Theoretical foundations of sustainable policy credit development in the context of Viet Nam” is a necessary issue to research on, with the goal of summarizing, systematizing, supplementing and perfecting the theory of sustainable policy credit development, including theory on the concept, role and characteristics of sustainable policy credit, contents of sustainable policy credit development and factors affecting the development of sustainable policy credit. By using the theoretical foundations summarized in this paper, further researches can be done to evaluate and propose solutions for sustainable policy credit development in one of the most important policy credit institutions in Viet Nam – the Viet Nam Bank for Social Policy.

## **2. LITERATURE REVIEW**

### **2.1. Researches related to sustainable development**

In the world, there are multiple studies on sustainable development, some of which are:

- Research by Thomas, C. F (2015) on “Naturalizing Sustainability Discourse: Paradigm, Practices and Pedagogy of Thoreau, Leopold, Carson and Wilson”, which asks the question: How the principles of fundamental naturalists can help clarify, enhance, and advance the discourse of sustainability? To answer this question, the study proposed the principles of four naturalists, Henry David Thoreau (1817-1862), Aldo Leopold (1887-1948), Rachel Carson (1907-1964) and Edward O. Wilson (1927-). The principles of these four naturalists present a worldview of historical, normative, economic, ecological, scientific and social values for a workable and applicable discourse about sustainability. Thus, through (a) textual analysis and interpretation of the four major natural-

ists and humanists, (b) analysis of secondary sources sheds light on their primordial and enduring principles, and (c) interviews with leading sustainability scholars, research has compiled to provide models, practices and teaching on natural sustainability.

- Research by Ben-Eli, M. (2015) on “Sustainability: Definition and Five Core Principles” proposes definition and five principles to improve and restore rigor to the ideas underlying the concept of sustainability. The principles of sustainability are demonstrated in relation to five basic areas: (a) The material sector: The basis for regulating the flow of matter and energy underpinning existence; (b) Economic sector: Provides a framework for creating and managing wealth; (c) Life domain: Provides the basis for appropriate behavior in the biosphere; (d) Social domain: Provides the basis for social interactions; (e) Spiritual domain: Determines the basic direction needed and provides the basis for the universal code of ethics.

- Research by Diesendorf, M. (2000) on “Sustainability and Sustainable Development” provides a framework for discussing issues on: (a) Reasons why sustainable development is needed; (b) Concepts of sustainability and sustainable development, in forms that are readily applicable to both the world and human society; (c) The role of corporations in sustainable development; (d) A framework for understanding sustainability and pursuing sustainable development through basic ethical assumptions, shared goals, measurable objectives, and actionable measures to achieve them, while integrating ecological, social and economic aspects of sustainability; (e) A strategy for implementing sustainable development, based on examples of the possible role of corporations.

## **2.2. Researches related to policy credit or policy credit institutions**

In the world, there have been a number of authors researched on the model of development banks and microfinance institutions (basically institutions provide credit as a policy tool), such as:

- Research by De La Torre, A (2002) on “A framework for restructuring development banks” has raised the problem of the difficulty in accessing financial services of underserved economic sectors. traditional concerns and solutions of countries when establishing development financial institutions (specifically, development banks). Since then, De La Torre has analyzed the limitations of development banks with State intervention and built a set of recommendations to be able to restructure these development banks towards effective operation.

- Research by Diamond, W and Raghavan, WS (1982) on “Aspects of development bank management” specifically deals with the management of development banks, the specific issues of the bank and the problems solutions to these problems. The study consists of eight sections, each dealing with one aspect of management: management roles and priorities; setting goals and strategies; socio-economic assessment of projects; promote and innovate; small-scale enterprise development; financial management; organization and personnel development; and government and relationships with development banks. Each section opens with the editors’ introductions, highlighting the relationship of the various issues facing management and the role management plays in dealing with them.

- Research by De Aghion, BA and Morduch, J (2005) on “Economic Issues of Microfinance” provides an accessible and compelling analysis of the expansion of global financial markets in poor communities. The work introduces readers to the key ideas driving microfinance, integrates

theory with empirical data, and addresses a range of issues, including savings and insurance, the role of women, measuring measure impact and encourage management.

### **2.3. Research gap**

From the above situation, it can be seen that relevant studies mainly research on matters related to sustainable development and policy credit in separate manner, thus, did not go into deep analysis of the relationship between sustainable development and policy credit in order to summarize and systematize theoretical foundations of sustainable policy credit development, especially in the context of Viet Nam.

## **3. METHODOLOGY**

This paper will selectively inherit the research results of previously published works, on that basis, put the concept of sustainable development and policy credit into the same research proposition, clarify the relationship between policy credit and sustainable development and analyze the contents of sustainable policy credit development and the factors affecting sustainable policy credit development. Research methods include: theoretical analysis and synthesis method, theoretical classification and systematization method.

Through that process, this paper identifies 3 important research questions that need to be answered, which are:

(a) What is a sustainable policy credit? In which, it is necessary to answer: What is policy credit? What is sustainable development? What is the relationship between policy credit and sustainable development? What are the characteristics of sustainable policy credit?

(c) What are the contents of sustainable policy credit development?

(d) What factors influence the sustainable development of policy credit?

## **4. RESEARCH RESULTS**

### **4.1. Theory of sustainable policy credit**

#### **4.1.1. Concept of policy credit**

In the world, the concept of policy credit can be divided into two types: development credit and microcredit. Both types are components of the broader concept of development finance and microfinance. Development finance is a community effort to support, encourage, and catalyze expansion through public and private investment in the development or redevelopment of infrastructure and businesses and industries. In contrast, microfinance is a type of financial service aimed at individuals (mainly the poor or the disadvantaged) and small businesses who cannot access normal banking system, thereby helping them improve their lives.

In Vietnam, the concept of policy credit includes state investment credit and social policy credit. In particular, the investment credit of the State is quite similar to the concept of development finance/development credit in the world, which is the support of the State through the form

of credit to finance investment projects in the fields, industries and sectors that the State needs to encourage investment. Credit for social policies also has similarities with the concept of microfinance/microcredit in the world, which is the use of financial resources mobilized by the State to give the poor and other vulnerable groups preferential loans to serve production, business, job creation, and life improvement. In this paper, the concept of policy credit is generally used to imply social policy credit for the disadvantaged.

#### **4.1.2. Concept of sustainable development**

Although the concept of “sustainability” and the concept of “sustainable development” are sometimes considered similar and synonymous, in fact the two concepts can be distinguished. According to Diesendorf (2000), sustainability is the goal or end point of a process called sustainable development. Gray (2010) reinforces the point by arguing that, while “sustainability” refers to an achievement, “sustainable development” refers to the process of achieving this achievement. Literally speaking, sustainable development simply means “development that can be continued indefinitely or for a certain period of time” (Stoddart, 2011). However, the most cited concept of sustainable development is the one proposed in the Brundtland Commission Report (Schaefer & Crane, 2005): sustainable development is development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs.

In Vietnam, Dr. Pham Thi Thanh Binh (2016) believes that sustainable development is the process of operating at the same time three aspects of development: a sustainable economic growth; a prosperous, equal, stable and cultural-diversified society; and a healthy environment with resources are maintained sustainably. Therefore, the complete system of ethical principles for sustainable development includes principles of sustainable development in all “three legs” of economy, society and environment. In the view of Porter and van der Linde (1995), the best options are those that meet the needs of society and are (a) environmentally and economically efficient, (b) economically and socially just, as well as (c) socially and environmentally sustainable.

Economic sustainability is when a production system meets current consumption without compromising future demand (Lobo, Pietriga, & Appert, 2015). In economic terms, we often assume that the supply of natural resources is unlimited and that economic growth will be accompanied by technological progress to replenish the natural resources destroyed in the production process. However, the reality is that natural resources are not infinite and most natural resources are not renewable. This has raised questions about the feasibility of uncontrolled growth and consumption. Dernbach (2003) argues that, due to population growth, human needs such as food, clothing, and housing increase, but the resources available in the world cannot increase to meet those demands forever. Thus, economic sustainability requires that decisions should be made in the most equitable and financially reasonable manner possible, while considering other aspects of sustainability (Zhai & Chang, 2019).

Social sustainability includes the concepts of equity, empowerment, accessibility, participation, cultural identity and institutional stability (Daly, 1992). This concept puts people in the most important position because development itself is for people. In a fundamental sense, “social sus-

tainability” involves the link between social conditions such as poverty and environmental devastation (Farazmand, 2016). In this regard, the theory of social sustainability aims to alleviate poverty within the existing economic and environmental resource of society (Kumar, Raizada, & Biswas, 2014; Scopelliti et al., 2018). According to Kolk (2016), social sustainability is not about ensuring that everyone’s needs are met. Instead, it aims to make it possible for everyone to be able to fulfill their needs. Above all, in the view of Gray (2010) and Guo (2017), social sustainability also includes many issues such as human rights, equity, gender equality and community participation, all to promote peace and social stability for sustainable development.

Environmental sustainability is about the natural environment and how it remains efficient and resilient to support human life. Environmental sustainability is concerned with the integrity of ecosystems and the tolerance of the natural environment (Brodhag & Taliere, 2006). However, the quest for uncontrolled growth is placing ever-greater demands on the earth and placing increasing pressures on these limits as technological progress may not be able to support this level of exponential growth. This is a balance problem that needs to be solved in order to grow optimally within the recovery of the environment to support human life and development in the long run.

#### ***4.1.3. The relationship between policy credit and sustainable development***

- First of all, sustainable development is the driving force for policy credit development. A country that sets a goal of sustainable development needs to distribute resources in a harmonious way to ensure balanced and sustainable development in all three areas: economy, society and environment. If the development process is allowed to take place naturally, the inevitable trend is that the country will focus on economic development, creating money and material because that is the immediate and most noticeable need of people, but at the same time will also neglect to maintain social and environmental sustainability. The consequences are that in the long run, although the country may be rich and affluent, its resources will be exhausted, the living environment and ecosystems will be destroyed, many complex social problems arise, and serious impacts on human beings. Therefore, if a country sets a goal of sustainable development, it is necessary to take measures to promote development in all three fields of economy, society and environment. In addition to the effective allocation of the state budget, the development of policy credit is also essential to encourage and motivate the sustainable development goals.

- Second, policy credit is an effective leverage tool for sustainable development. Equal allocation of resources is crucial for economic, social and environmental sustainability. However, private capital often focuses on investing more in profitable production and business models, helping the rich get richer instead of helping to develop the economy at a micro level like hunger eradication or poverty reduction. Therefore, resources from policy credit are very important to encourage economic development at these levels, helping people from all levels have a stable income for life. In addition, other social and environmental issues also require policy credit capital to implement because it is less attractive to private investment if not profitable. Therefore, in the process of sustainable development, it is indispensable for an effective financial tool such as policy credit, especially in the context that state budget capital is still limited.

- Third, policy credit has the right characteristics to support sustainable development. As analyzed, policy credit has the characteristics of being a model decided by the State, operating not for profit, having humanistic meaning, serving the disadvantaged and having the advantage in access and use resources supported by the State. Therefore, policy credit is very suitable to support sustainable development, with goals inherently similar to the scope of policy credit activities such as reducing poverty, creating social equality, improving access to education and healthcare systems, creating jobs, protecting the environment, ensuring social security, etc.

#### **4.1.4. Concept and characteristics of sustainable policy credit**

On the basis of the analysis and synthesis of policy credit, sustainability and sustainable development, as well as the relationship between policy credit and sustainable development mentioned above, in this paper, the concept of sustainable policy credit is identified as the State's policy credit which most effectively serving the country's sustainable development.

Thus, sustainable policy credit has the following characteristics:

- First of all, sustainable policy credit is decided by the State. Sustainable policy credit is made through organizations designated by the State or established by the State, therefore, associated with the guidelines and orientations of the State, implemented on the basis of mechanisms and policies issued and guided by State agencies. Policy credit institutions cannot advocate to change the policy credit operation model by themselves, but must have approval and consistent adjustment from competent authorities before implementation.

- Second, sustainable policy credit does not set profit targets. The task of sustainable policy credit is usually to realize the State's socio-economic goals and policies, such as lending to serve production and business, create jobs, improve living standards, eliminate hunger and reduce poverty, etc. Therefore, sustainable policy credit cannot and should not operate with the aim of generating profits. Income from policy credit activities is only targeted enough to cover financial costs, management costs, risk compensation costs, and possibly costs to upgrade the system (if necessary).

- Third, sustainable policy credit serves disadvantaged groups in society, often having a close relationship with agricultural activities. These customers have a high risk because: agricultural products have high seasonality and unpredictable revenues; information about their legal and financial capacity is also difficult to collect and verify because the database is not as complete and accurate as that of corporate customers; the disadvantaged groups also do not own many assets that meet the usual standards of collateral.

- Fourth, sustainable policy credit uses resources mainly from the State through various forms of support. Therefore, the risks of policy credit institutions are also risks of the State. However, it is necessary to clarify and separate this issue, to avoid the case that policy credit institutions cannot conduct lending activities because of risk concerns. In the context that policy credit customers are inherently more risky than commercial banks' customers, the State needs to accept a broader risk limit than commercial banks to implement the task of improving people's lives at all levels, thereby developing the economy and stabilizing society.



- Fifth, sustainable policy credit equally supports 03 aspects of sustainable development. If the lending activities of a policy credit model contribute to the country's economic development or social development or environmental protection, but harm the other two areas, it is not sustainable policy credit. For example, a policy credit model with credit programs to support productions and businesses but lacking attention to children's education and women's empowerment would lead to increased gender inequality (because men hold all valuable assets, women only help with production and housework) and increased illiteracy in children (because children are forced to stay at home to help with family business and production); which leads to social instability. Or, a policy credit model with a credit program to support the poor in agricultural, livestock and handicraft production but lack of attention to environmental issues will increase water pollution, local soil and air; which leads to environmental unsustainability.

- Sixth, sustainable policy credit based on sustainable development principles. Sustainable policy credit closely follows and implements credit activities on the basis of sustainable development principles such as ecosystem protection, population control, human resource management, human development, promotion of social traditions, customs and political culture, focusing on serving target audiences and sectors that are important to the achievement of the Sustainable Development Goals, specifically: (a) respect and care for community life; (b) improve people's quality of life; (c) protect life and biodiversity on earth; (d) minimize the degradation of non-renewable resources; (e) remain within the tolerance of the Earth; (f) change people's attitudes and behaviors; (g) let communities manage their own environment; (h) building a unified country, favorable for sustainable development; (i) building a global alliance in environmental protection.

## **4.2. Contents of sustainable policy credit development**

### ***4.2.1. Development of operating model***

- First of all, sustainable development and policy credit inherently carry the State's policy goals, in order to realize the orientations and commitments of socio-economic development, therefore the operating model for sustainable policy credit should not for profit.

- Second, policy credit activities with the goal of sustainable development will certainly have many different characteristics compared to normal commercial credit activities, therefore, the operating model for sustainable policy credit should have specific regulations to be able to deploy activities effectively without being entangled to many legal regulations of the commercial banking system.

- Third, since sustainable policy credit activities will focus a lot on small-scale loans for disadvantaged groups in society, it is also necessary to develop an operating model suitable for microcredit activities.

### ***4.2.2. Development of deployment system***

The deployment system is a very important aspect for sustainable policy credit to be implemented effectively. The deployment system needs to ensure the following capabilities:

- The first is coverage capacity. The customers served by sustainable policy credit serves are often in remote, isolated areas for many reasons. Therefore, the coverage capacity is a necessary capacity of the system to be able to approach, persuade, guide, lend and maintain long-term re-

relationships with borrowers until the target of the credit program is achieved. Coverage capacity is reflected in the following aspects: (a) number of branches and transaction points; (b) the even distribution of branches and transaction points across the country, from urban to rural areas, from plains to highlands; and (c) the ability to serve diverse customers.

- The second is implementation capacity. In order to effectively deploy sustainable policy credit, a set of competencies is required as follows: (a) Ability to plan in long-term and short-term related to capital mobilization and utilization to meet the set targets on sustainable development; (b) Ability to build a system of detailed professional processes, which allows smooth and error-free implementation of lending policy credit programs; (c) Ability to implement policy credit, including the stages from approaching potential customers to guiding, explaining, creating trust, appraising, evaluating, lending, monitoring and assisting customers in creating regular revenue for debt repayment and debt recovery.

#### **4.2.3. Development of credit programs**

Sustainable policy credit development must be associated with the building of a combination of credit programs that best serve and balance the country's sustainable development goals, specifically:

- First, the policy credit programs towards sustainable development must be divided into 03 large groups with 03 policy objectives: economic sustainability, social sustainability and environmental sustainability. On the basis of these three large groups, specific credit programs to achieve sustainable development goals are developed and implemented.

- Second, policy credit programs in the direction of sustainable development must ensure balance and harmony in order to realize 03 goals of economic, social and environmental sustainability. Each target group should have an equal number of credit programs to ensure synchronous implementation, to avoid being too focused on the economy and neglecting social and environmental issues, or vice versa.

#### **4.2.4. Development of human resources**

One of the two main resources in the development and implementation of sustainable policy credit is human resources. Human resources must include both quantity and quality:

- First, there must be a sufficient number of human resources to deploy the credit programs necessary for the implementation of the Sustainable Development Goals to all regions of the country, including most remote and isolated areas because inherently the main target audience of the Sustainable Development Goals are these regions.

- Second, it is necessary to ensure that human resources are of good quality, well-trained, not only in professional skills but also in soft skills such as communication and persuasion, organizing, planning, etc. Because the person who implements sustainable credit policy will contact and work with the most specific customers, who do not necessarily understand and have background knowledge on issues such as finance, credit, savings, etc.

#### **4.2.5. Development of financial resources**

Besides human resources, financial resources also need to be developed to implement sustainable policy credit. Financial resources must also include both quantity and quality:

- First, in terms of quantity, financial resources must be sufficiently large to effectively implement and cover each credit program. A credit program established without appropriate financial resources to deploy and meet the needs of eligible customers will not have any impact of sustainable development.

- Second, in terms of quality, financial resources must be stable and preferential. Financial resources of good quality for policy credit institutions are capital sources mobilized with a long term so that the institutions do not have to consider of liquidity problem; at the same time, it must be a source of capital mobilized with low financial costs so that the policy credit institutions can lend at a reasonable price.

#### **4.2.6. Development of credit management methods**

In a sustainable policy credit model, the number of customers will be very large, belonging to many different subjects and different regions. Therefore, the development of sustainable policy credit is associated with the development of credit management methods suitable to the characteristics of borrowers, including:

- First, customers of sustainable policy credit carry more risk factors than customers of commercial banks. Customers in rural areas are engaged in agricultural activities and are vulnerable to crop failures or adverse price movements. Meanwhile, the accessibility to risk prevention products of this target group in rural areas is very limited. Besides, the level of financial management of these customers is not high, so the effective use of loans is not always achieved. Customers of sustainable policy credit also do not own many assets that meet the usual standards of credit institutions for collateral.

- Second, customers of sustainable policy credit have very diverse borrowing needs. Different customers have different financing needs such as environmental sanitation renovation, medical treatment, vocational training, buying livestock, seedlings and materials for production, etc. In addition to spending on production activities, the spending needs of the poor and other policy beneficiaries also include unexpected expenses such as sickness and dealing with natural disasters and epidemics.

- Third, the cost of granting credit to policy customers is often very high. This is because the value of each credit is usually small with a lot of turnover, plus the characteristics of the customer group scattered over a large area, concentrated in remote and isolated areas. Credit management in such situation becomes very expensive, requires a large enough number of employees and spends a lot of financial resources and time to find customers, to appraise loan options and to monitor the use of loans. The large number of credits, the diversity of credit needs, and the wide geographical area force policy credit institutions to trade-off between minimizing credit management costs and ensuring credit quality.

- Fourth, there must be coordination with the resources of the society in general and the resources of the State in particular to help the customers who borrow the policy credits to develop comprehensively, thereby escaping poverty in a sustainable way. The poor need preferential credit to meet the lack of financial resources for their living and production needs, but they also need other support in terms of health, culture and education from the government and surrounding communities. In addition, the support in term of market, labor techniques such as cultivation, hus-

bandry, trading, etc. also plays an extremely important role for policy beneficiaries, allowing them to reduce their disadvantage compared to other groups in society.

### **4.3. Factors influence sustainable policy credit development**

#### ***4.3.1. Environment for policy credit implementation***

To develop sustainable policy credit requires an appropriate implementation environment. The role of policy credit is determined primarily by the socio-economic environment and priorities, as well as the specific development needs of each country. However, this environment also affects the ability of policy credit to perform its functions and duties.

The most important factor affecting whether a policy credit model will work successfully in the long run is the state of the economy. Although the task of capital policy credit is to solve problems in the economy, policy credit by itself cannot operate in an erratic economic environment. This is one of the paradoxes of policy credit when policy credit is very much needed in poor countries, but the economic and political systems in poor countries are very weak, making it more difficult for policy credit to succeed.

#### ***4.3.2. Policy of the State***

The policy of the State can greatly affect the development of sustainable policy credit, including:

- The first is the State's policy on sustainable development and the country's Sustainable Development Goals. A country that has not defined sustainable development goals, as well as has not committed to sustainable economic, social and environmental development has no reason and motivation to develop sustainable policy credit. A consistent policy of the State on sustainable development will be the guideline for all actions for economic, social and environmental development of that country in the future.

- The second is the State's policy on taking policy credit as one of the cores for sustainable development. The State must have a clear assessment of the importance and role of policy credit as an effective financial tool for sustainable economic, social and environmental development of the country towards the Sustainable Development Goals. These assessments and statements must be expressed in the form of specific legal documents so that lower-level agencies have a basis to deploy sustainable policy credit development.

#### ***4.3.3. Mechanisms and regulations of State agencies***

To develop sustainable policy credit, it is necessary to have specific mechanisms, regulations and guidelines issued by State agencies to create a legal framework for effective and practical implementation. Specifically, there must be a legal system to guide policy credit activities towards sustainable development. The legal regulations at the professional level will be the basis for financial institutions to implement sustainable policy credits in practice. The lack of an adequate system of mechanisms and regulations from State agencies will greatly affect the development of sustainable policy credit.

## **5. CONCLUSION**

From the above discussion of the research results, this paper has achieved the following outcomes:

- First, synthesizing and clarifying the concept of policy credit and sustainable development, evaluating the relationship between policy credit and sustainable development and highlighting the characteristics of sustainable policy credit.

- Second, analyzing that sustainable policy credit development includes: (a) development of operating model; (b) development of deployment system; (c) development of credit programs; (d) development of human resources; (e) development of financial resources; and (f) development of credit management methods.

- Third, identifying three factors which influence the development of sustainable policy credit: (a) Environment for policy credit implementation; (b) Policy of the State; (c) Mechanisms and regulations of State agencies.

Policy credit can play an important role in the sustainable development of the country if built correctly following the theoretical foundations above.

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# AGRITOURISM AS A PATHWAY TOWARD SUSTAINABILITY

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**Abstract:** *Agritourism has long been studied and contemplated to be a conceivable approach for social-economic development by both developed and developing countries around the world. Though, the situation in developing countries has received much less attention and limited research associated with agritourism in Vietnam. Thus, this study has shed light on agritourism and surrounding topics about agritourism practice in Vietnam. Based upon an extension of literature review and current global research, this study examines the importance of agritourism, not only its impact, and challenges but also the deliberation of agritourism as a pathway toward sustainability in tourism. Since then, this study provides the discussion and recommendations for some challenges faced by residents and practitioners in attempting to seek live improvements through sustainable agritourism.*

**Keyword:** *Agritourism, Rural tourism, Agrotourism, Sustainability, Vietnam*

## 1. INTRODUCTION

Agritourism is a universal subject matter and has achieved its first success in Western countries. In fact, agritourism is a rapidly growing sector and accounts for a growing proportion of the tourism industry. According to Weaver & Fennell (1997), agritourism is an applicable form of tourism that can play a vital role in rural development and agriculture by integrating a lively farm environment with commercial tourism constituents. In addition, agritourism has been instrumental in the economic potential of agribusinesses and countries, such as Vietnam which has a high fraction of agriculture in their areas. In point of fact, Vietnam is an agricultural country with nearly 65.6% of the population living in rural areas (United Nations Vietnam, 2019) and in the progress of building new rural development. Therefore, the development of agritourism and the construction of a new countryside have a mutual relationship, both developing tourism into a spearhead economic sector and achieving the national target on sustainable new rural construction.

Agritourism can attract many types of visitors by bringing visitors a close-to-nature life experience, and exploring how agricultural products are produced and consumed in agriculture zones. In recent years, in Vietnam, the number of domestic and foreign tourists participating in tourism has raised dramatically. According to the General Statistics Office (2022), international visitors coming to Vietnam increased sharply in May 2022, reaching 172.9 thousand arrivals, showing a rise of 70.6% compared to the previous month and 12.8 times higher than the same period last year. For domestic

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tourism, domestic tourists in May 2022 are estimated at 12 million arrivals, exhibiting an upsurge of 243% compared to the same period in 2021. Generally, in the first 5 months of 2022, international visitors coming to Vietnam reached 365.3 thousand arrivals and domestic tourists reached about 48.6 million arrivals. Total revenue is estimated at 211 trillion VND in the first 5 months of 2022. Which, the number of tourists participating in various types of rural tourism, including agricultural tourism has also increased significantly, putting on view agricultural tourism has a lot of potential for development. For all that, Vietnam has not yet been fully exploited the role and importance of agritourism within the country. Research on Vietnam's agricultural tourism, its policies, and initiatives to support the development of Vietnam's agricultural tourism, hence, is indispensable that will make the most of the prospective for industry linkages between agriculture and tourism services. The objective of this study likewise aims to discover the role of agritourism in sustainable development and provide possibilities and recommendations for Vietnam.

## 2. AGRITOURISM DEFINITION

The definition of agritourism is varied and it has still been discussed by various authors. In recent research, the term “agritourism” is defined as a subset of rural tourism (Abadi & Khakzand, 2022). Previously, agritourism is also referred to farm tourism, farm resort, farm-based tourism and rural tourism (Phillip et al., 2010). While Frater (1983) and Murphy (1985) argued that agritourism is an activity that takes place on a farm and provides associated farm activities to the visitor, Barbieri and Mshenga (2008) defined agritourism is any practice, activity or service implemented on a farm for attracting tourists with a diversity of activities, including: tours, overnight stays, events and festivals. Roman (2018), on the other hands, considered that agritourism is a part of rural tourism with the purpose of providing recreational and leisure activities for many people on or off the farm. Concisely, Adamov et al. (2020) highlighted the essence of agritourism – the key aspects of the definition of agritourism (Table 1).

**Table 1: The essence of agritourism – key aspects of agritourism definition**

Criteria Taken into Consideration for Agritourism Definition	The Key Aspects of the Definition	Benefits from Agritourism Activities
The perspective of tourist reception structures	Capitalization of the surplus of the accommodation spaces existing in a guesthouse— these spaces must be arranged and prepared for the reception of the tourists	<p><i>Benefits for communities</i></p> <ul style="list-style-type: none"> <li>• Creating new jobs, direct revenue generation</li> <li>• Development of new market niches</li> <li>• Increasing the sustainability of agricultural businesses</li> <li>• Improvement of living conditions and standards</li> </ul>



The perspective of activities	A set of goods and services offered to tourists by the guesthouse for consumption through direct involvement, active but non-remunerated	<i>Benefits for the tourism industry</i> • Diversifying the tourist products, positioning agritourism as a rarity <i>Advantages fro farmers</i>
The perspective of the local economy	A source of achieving and increasing the local income	• Increasing interest in agricultural local products and ensuring their direct capitalization • The opportunity to maintain and use agricultural land • The income goes directly to the farmers' families

Source: Adamov et al. (2020)

As a whole, although there has not been a consensus on a definition of agritourism, agritourism has certain commonalities, including: (1) it is a part of rural tourism; (2) the purpose is to attract recreational visitors; (3) activities that take place mainly on the farm (4) help visitors experience and improve environmental education.

**3. SUSTAINABILITY IN TOURISM & SUSTAINABLE AGRITOURISM**

Tourism is one of the fastest growing sectors and contributes to the world’s economic development. Barbieri & Mshenga (2008) and Nilsson (2002) indicated that tourism poses many opportunities for family enterprisies including raised farm gross income, the creation of employment, and the generation of cash flow that stipulate prosperity to many countries and regions around the world. Nevertheless, the pressure brought from tourism on the sustainable demand in natural and cultural resources, as well as disrupting the social ecology and the life of local communities are enormous. From that reason, agritourism is seen as a new strategy for the above problems towards sustainability in tourism (Su, 2011).

Agritourism will increase the attractiveness and vitality of rural areas and simultaneously reduce the imbalance in demographic considerations. The reason behind is that is the linkage between rural agriculture and tourism. In detail, agritourism is multifunctional with the linkage and dependence of many different factors in creating added values to satisfy visitors’ needs and experiences. Besides, agritourism is able to make connection and provide support directly or indirectly to the community by generating income while concurrently ensuring local sustainability. Sustainable development in general, especially in tourism is an urgent need, including three basic factors: environment, economy and society (Elkington, 1997). Sustainable tourism deals with problems such as environmental damage, and traditional cultural degradation caused by tourism development (Bramwell and Lane, 1993). Agritourism will also contribute to the sustainable development in tourism as sustainable tourism not only enhances the sustainability of the environment and resources, but also encourages economically sustainable socio-economic growth.

Agritourism in a rural area can be concise in dissimilar strategies, sustainable management of natural resources, and realistic economic growth (Stanovčić et al., 2018). To be clear, agritourism contributes to maintaining feasibility and solidity, in other meaning, it is the sustainability of the rural localities (Adamov et al., 2020). Agritourism activities include capitalizing on elements,

such as enhancing the infrastructure, providing human resources with proper training, making attempts in order to sustain and capitalize on the heritage and local spiritual lives, and also technical endowments will help enhance the quality of life. As a result, rural areas will be places that combination of all elements of the development of sustainability (OECD, 1994; Turnock, 1999; Tew & Barbieri, 2012; Muresan et al., 2016).

The most recent study by Abadi & Khakzand (2022) on sustainable agritourism also introduces agritourism as having three dimensions and links it to environmental protection oriented towards sustainability, development and spirituality of instinctive business. Table 2 helps illustrating its specific activities and benefits. The three main pillars of sustainable development have also been outlined by Font & McCabe (2017), in which the foremost objectives of sustainable development are to focus on the environmental, social and economic consequences of agritourism activities.

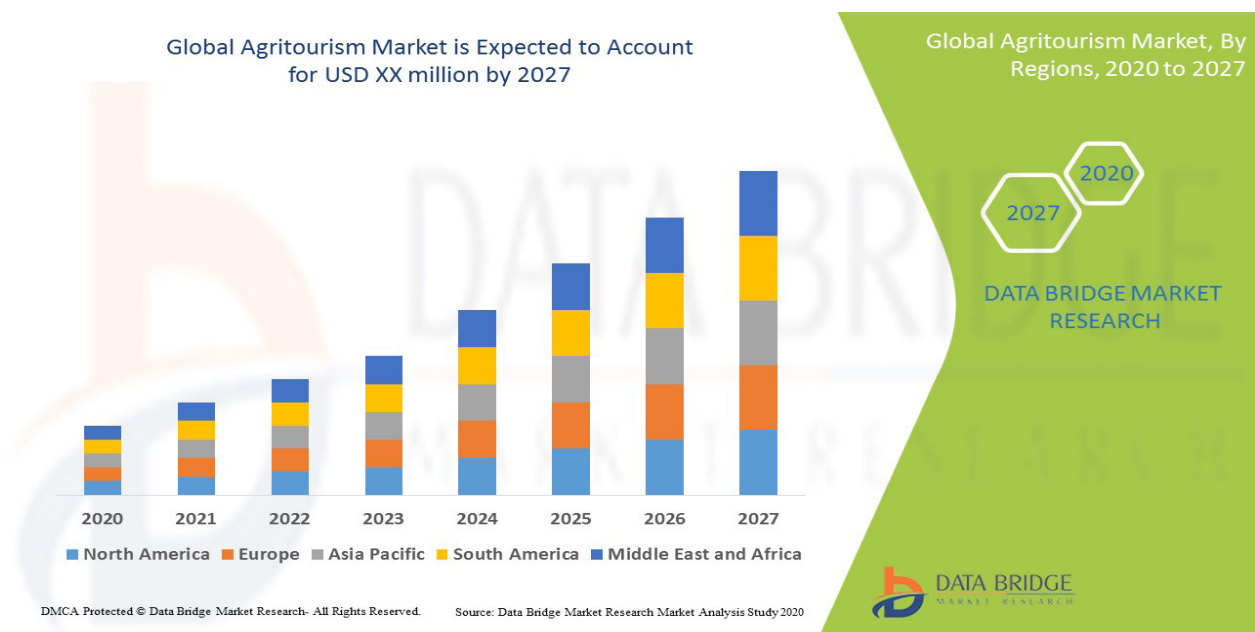
**Table 2: Types of Sustainability achieved through Agritourism throughout years**

Types of Sustainability	Achieved through Agritourism	Years & Authors
Economic sustainability	“Economic entrepreneurship” which includes creativity in activities and the identification of new opportunities, and also “economic ecology” which involves the local economy and the economic efficiency of local industries.	Abadi & Khakzand (2021)
	Agritourism stimulates other local activities and strengthens the local economy.	Sharpley (2007); Barbieri (2009); Ammirato & Felicetti (2014); Barbieri (2013); Broccardo et al., (2017); Boz & Kiliç (2018) and Tregua & D’Auria (2018)
	Agritourism is an increase in gross farm income, cash flow and an opportunity for economic diversification	Broccardo & Culasso (2017) and Schilling et al., (2012)
	Agricultural tourism provides economic stability by supplementing farm income in times of economic crisis	McGehee (2007), Barbieri (2009), Schilling et al. (2012), Broccardo & Culasso (2017) and Kim et al. (2019)
Social sustainability	Ideas of social communication, education and the preservation and recall of rural identity	Abadi & Khakzand (2021)
	Agricultural tourism is a crucial element to restore the roots, folk culture and tradition. It also protects rural cultural heritage, which strengthens social sustainability in order to achieve economic sustainability.	Contini et al., (2009); Shen et al., (2009); Songkhla & Somboonsuke (2013) and Ciolac et al., (2019)
Environmental sustainability	By the preservation of natural resources and farms and also by environmental awareness.	Abadi & Khakzand (2021)
	Agritourism has the approach of preservation of natural resources and landscape, biodiversity and environmental protection regarding sustainability.	Sayadi et al., (2009); Songkhla & Somboonsuke (2013), and Alves-Pinto (2017)

Source: Abadi & Khakzand (2021)

**4. A POTENTIAL GROWTH OF AGRITOURISM IN VIETNAM**

Agritourism is receiving more attention both from tourists and tourism professionals because of its positive influences to national and local sustainable development. According to Data Bridge Market Research (2020), the agritourism market is projected to earn market growth in all continents and countries (Figure 1) at a CAGR of 16.4% between 2020 and 2027. With the rapid expansion of online booking, this kind of access to tourism makes it easier for travelers around the world by reserving agritourism services online in advance. In addition, the influence of social media tools on customer interaction and information has rapidly impacted the agritourism market. Both those advancements in real-time online booking and tourist engagement and information are believed to stimulate the growth of the agritourism market in the above-mentioned forecast period. To be clear, according to a report by Fortune Business Insights (2020), the size of the global agritourism market is worth US\$69.24 billion in 2019 and is expected to reach US\$117.37 billion by 2027. Over-all, the growth in agritourism demand has increased over the years, especially in Asia Pacific countries (Figure 1).



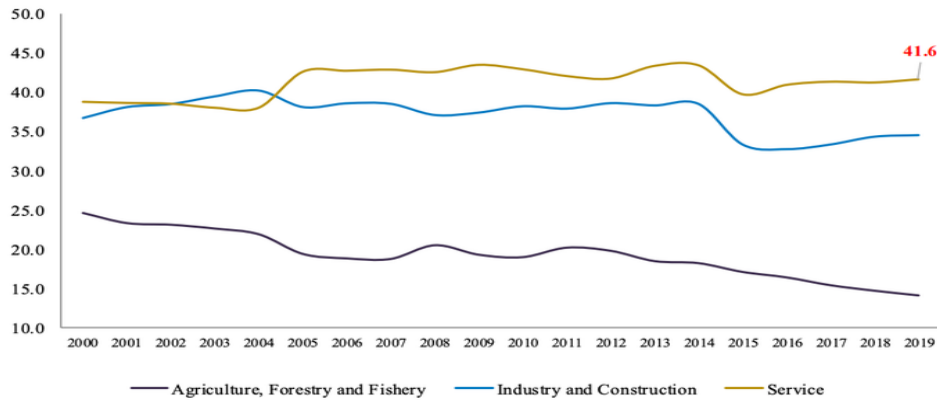
**Figure 1: Global Agritourism Market from 2020 to 2027**

*Source: Data Bridge Market Research (2020)*

Economic tourism takes an imperative part in the economic development of the country. As a matter of fact, the service and agricultural sectors contribute greatly to the country’s GDP (Figure 2). During the period from 2015 to 2019, tourism achieved a high growth rate of 22.7% and is one of the 10 fastest growing tourism countries in the world (UNTWO, 2019). Types of tourism are also developing and diversifying. Vietnam is S-shaped, and has a largely rural area, with diverse natural conditions from high mountains, midlands, and highlands to coastal plains with ironic tourism resources, and beautiful landscapes. The beauty of the natural resource is a strength to develop tourism, especially agricultural tourism or agritourism. In addition, rural areas

still retain many customs, festivals, cuisines, and heritages that bring great elaboration advantages for agritourism in Vietnam.

**Figure 4: Vietnam's GDP structure**



**Figure 2: Vietnam's GDP structure**

*Source: GSO, Bao Viet Securities Company*

Agritourism continuously cultivates and gradually attracts more tourists due to the positive impacts on the people, the locality and the country's economic development. Agritourism generates a higher income for local people than agriculture through the wide availability of agricultural products. The income that comes from supporting services for agritourism also contributes to local and national prosperity. According to statistics from the General Department of Tourism, by the end of 2018, the whole country had 3,018 homestay accommodation establishments with 20,772 rooms. This kind of business model has developed in many areas of the country, most clearly seen in the mountainous areas in the North, the Central Region, and the Central Highlands. The homestays are invested in the localities, bearing the local cultural identity and the landscape that has attracted tourists across the country. In addition to room rental services, households also provide other services, including food service, transportation, sightseeing, and some outdoor entertainment services. Therefore, it leads to the income of many households has increased, and the living standard has been improved, helping local people stick more with the homeland.

At the same time, agritourism also gets in the act of raising the awareness of establishing a landscape environment, preserving, and restoring the local identity for both residents and tourists. With these actions, agritourism destinations can make a difference compared to other localities and countries to attract tourists. According to statistics, in 2018 there were over 500,000 tourists visiting tourist attractions in Ho Chi Minh City, appropriately 289,000 visitors come to Lai Chau, and nearly 500,000 visitors per year come to Da Lat. After the Covid-19 pandemic, the high demand for tourism is returned and tourists want to experience diverse nature and culture which is a great opportunity for Vietnam tourism generally and agritourism in particular. Indeed, the more modern society is, the more people have a tendency to live close to and in harmony with nature. Therefore, in recent years, green tourism and ecotourism associated with agritourism have begun to be superior to other types of tourism. As a result, awakening the potential of agritourism in the country is the respectable direction for tourism, economic, social and country development.

## 5. DIFFICULTIES AND CHALLENGES IN AGRITOURISM

Appreciating the great potential of agritourism in the future, the Vietnam government has also taken some actions to encourage the development of agritourism. In 2021, the General Administration of Tourism, Department of Culture basically implemented seminars, forums, and field trips to prospective agritourism localities or destinations and set sights on working with consulting units to build up draft content on mechanisms and policies for agritourism development (Nong Nghiep Viet Nam, 2021). They stated that agritourism development in the National Target Program on building new countryside for the period of 2021-2025 is identified as one of the driving forces to create jobs, increase incomes for people, and promote rural economic restructuring; while preserving traditional cultural values and protecting the environment. Despite the potential growth and advantages of agritourism, along with some current practices from the government, agritourism activities have also come with several challenges, especially at the start-up stage for agribusinesses.

First of all, in the localities, the notable reality is that the current agritourism activities are still small-scale, spontaneous, and fragmented. In a report submitted to the Prime Minister, Deputy Minister of Agriculture and Rural Development, Tran Thanh Nam (Centre of Information and Technology, Ministry of Culture, Sports and Tourism, 2021) said that the planning and development of agritourism destinations still lacks a central focus and is scattered. In some localities, the selection of agritourism construction destinations did not properly assess so it did not endorse its efficiency. In addition, infrastructure and facilities for rural tourism have not met the fundamental requirements and lack of synchronization. This leads to the disconnection between tourism, agriculture, sustainability, and other industries.

Secondly, human resources for agritourism development are still limited in both quantity and quality. Most of them are farmers who are engaged in agricultural cultivation and at the same time exert themselves in agritourism services. The farmers are not properly trained and it has shown that they lack of professionalism in agritourism services. This can be explained that the low entry requirement in agritourism may catch the fancy of more people with no pertinent training and education to enter the market and limiting the potential to develop in the longer term (Getz et al., 2004). These are common human factors for successful agritourism that have been discussed by multiple researchers over years (Iorio & Corsale, 2010; Sharpley & Sharpley, 2002; Sharpley & Vass, 2006; Yang, 2012). In practice, agritourism businesses possess neither the skills nor the resources for successful campaigns and marketing for agritourism accomplishments. Besides, there are some research shows that although women have a pivotal role in agritourism development (Brandth & Haugen, 2010; McGehee, Kim, & Jennings, 2007; McNally, 2001; Nilsson, 2002), their agritourism projects incline to be less gainful than projects executed by male farmers (Barbieri & Mshenga, 2008). This can be explained by women's tendency to be less connected to professional networks, to lesser extent access to financial resources and subsidies, and the requisite to balance their business and household responsibilities (Bock, 2004; Little & Jones, 2000).

Thirdly, other difficulties can be recognised as agritourism products are still monotonous, exhibiting no unique characteristics and specializes of each locality. Apart from that, those products are also spontaneous and seasonal which makes them less attractive to tourists in some periods.

In addition, the communication, advertising, and promotion of both agritourism destinations and products are not professional which indicated other obstacles farmers and practitioners faced. As a result, capital requirements for marketing and branding purposes appear to be analytical to succeed in agritourism (Barbieri & Mshenga, 2008; Sharpley & Vass, 2006; Yang, 2012). Moreover, tourism's seasonality, especially during the summer and holidays, appears to be a major challenge for agritourism (Fleischer & Pizam, 1997; Yang, 2012). In particular, the issue can become important if the tourist season coincides with the intensive farming season. Those challenges could be explained that farmers have not thoughtfully involved in the comprehensive planning for agritourism service activities in a longer term while focusing on earning extra income from their current capacities.

Additionally, geographical location is significant for agritourism development in terms of the aggregation of agritourism farms (Sharpley & Vass, 2006) and the availability of beautiful surroundings (Yang, 2012). Barbieri and Tew (2010) determined that distance from the city is not related to the ecological efficiency of agritourism while Yang (2012) argues that the proximity to the city helps develop agritourism villages more. The factual problem with Vietnam's agritourism is the traffic condition in some agritourism places (roads to villages, hamlets...) is still underprivileged. It makes it too difficult for tourists to travel to agritourism destinations. As the connection between agritourism destinations and main routes is still limited, combined with no linkages between inter-provincial and inter-regional tourism destinations, the length of stays of tourists has not been extended (averages stay is only 1-1.5 days/time). Consequently, financial resources for early investment can be a burden for agritourism development, especially for activities related to certain types of accommodation (Sharpley & Sharpley, 2002, Yang, 2012) and infrastructure.

In general, the challenges associated with agritourism development could be summarised in four major aspects: the urbanisation of rural destinations, anti-planning, lack of financial and human resources, and high commoditization (Zhang et al., 2009). In specific, agritourism destinations become urbanised with highly commercialised tourist activities could lead to the deterioration of local scenes if not planning considering sustainable essentials. Although the government vigorously makes some efforts in planning it is still gotten shelved due to a lack of infrastructure, resources, and coordination. A huge challenge is seen in human resources to manage agritourism destinations and facilities are limited along with the financial resources limited required to jump-start an economy. The contact between locals and tourist are normally exhibited in transactions that exchange money for accommodation, food, and handicraft souvenirs rather than a significant local culture distinction, making it hard to control and build a brand identity.

## **6. DISCUSSIONS AND CONCLUSIONS**

Based on the current trends of high tourism demand and the potential for returning to nature and the rural environment, especially after the pandemic, it is important to emphasize strategies to support the future sustainable development of agritourism in the local community. As it has been recognized from the challenges to implement agritourism activities, the necessity of the involvement of the authorities in supporting agritourism services should be accentuated. In particular, the management of agritourism by authorities and farmers shows a lack of attention to cooperation and networking. According to Vietnam Farmer's Union (2022), in order to develop agritourism, it is indispensable to build up a system of synchronous mechanisms and policies

on land, infrastructure management; accommodation management; supporting and linking agritourism value chains towards sustainability. Thus, complete cohesion among all government levels is urgently needed in order to operate discussion about agritourism development and promote training programs for households wanting to get involved in agritourism. In detail, issues should be concentrated on mechanisms and policies for agritourism development, a framework for the agritourism development in association with new rural construction in the next period, an identification of agritourism target market, an organisation of agritourism destinations; a management of the agritourism model, a creation of agritourism products, especially related to handicraft programs. Besides, mechanisms to support women in agribusiness should also be established to provide a balanced link between their household duty and agribusiness. According to Sharpley & Sharpley (2002), there is a chance for agritourism's expansion but government subsidies and policy implementation may be required to build up the potential advantages of such agritourism. In addition, the literature review above shows that entrepreneurship and environmental protection are indispensable for the sustainable development of agritourism. Along with this, the sustainable development of agritourism is a valuable aspect of constructing entrepreneurship and swelling the view of environmental protection in society. This two-way relationship uncovers the prominence of education and participation of local peoples in the process of expedient and sustainable development of agritourism. As a result, pieces of knowledge of the owners about agritourism structures should be emphasized through educational activities: training, workshops, conferences, and seminars in relation to agritourism toward sustainability.

Apart from the support from authorities, new initiatives should be planned to encourage and support local households to make the most use of their agritourism destinations. Su (2011) also strongly argued on this topic in his research, robust encouragement through finance and marketing from government and tourism administration is essential for agritourism's growth. In specific, it is obligatory to improve the service quality of agritourism destinations and prolong the stay of tourists in rural areas through tourist-oriented activities while not losing the local identity. In order to increase income for rural people, diversifying production, business, and service industries are key activities. By this, farmers are able to contribute to the promotion of advantages, and different values of agriculture and switch from agricultural production to the agricultural economy in the direction of "multi-sectoral integration".

Regarding marketing strategies, it is also important to strengthen communication, promotion, and connection of agritourism in association with new rural construction. Each locality should be encouraged to create its distinctive product, preserving the traditional values of agritourism to attract more domestic and foreign tourists. Calling for research on agritourism strategies such as agritourism branding is one of the other approaches that help both policy setters and practitioners truly apprehend the interconnection between agritourism services and perceived consumers. Another initiative that could be thought of is currently, Vietnam's agritourism model is on the rise, however, most agritourism activities have been taken by local farmers including tourism-related products and services but lack of ways and aided technology to promote them. Building the platforms for promoting agritourism helps connect all these sporadic points, plus the application of virtual reality technology and tourism applications, it is decent support for getting agritourism products and services closer to the tourists.

In general, this study set out to gain a sympathetic of how agritourism can both enrich the livelihoods of families living and reinforce sustainability in Vietnam. It also highlighted some difficulties farmers and practitioners have to deal with which are knowledge, skills, and essential support from authorities. This opened up future research in agritourism in Vietnam in terms of policies, government support including financial and marketing resources, as well as a well-planned strategy for agritourism development.

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# RECOGNIZING AND GOVERNING LABOR RELATIONS IN THE SHARING ECONOMY: THE KEY TO BUILDING AND DEVELOPING A SUSTAINABLE SHARING ECONOMY IN VIETNAM

LL.M. Nguyen The Duc Tam<sup>1</sup>, Le Bao Khanh<sup>1</sup>

**Abstract:** *The existence and development of sharing economy during the Fourth Industrial Revolution have brought many socio-economic benefits, but it also causes many legal and social issues. In this paper, the authors evaluate the sustainability of sharing economy. The authors argue that the sharing economy, especially the model of hybrid platforms (such as ride-hailing companies), is not sustainable because it fails to recognize labor relations between the platforms and the service providers, thus unfairly accumulating the benefits to the platforms while depriving social capital on which it relies. Then, the authors argue for the recognition of labor relations in the sharing economy to balance the interests of all participants. Remarkably, the service providers working for hybrid platforms should be entitled to three fundamental rights, namely (i) statutory minimum wages, (ii) statutory maximum working hours limits, and (iii) social insurance, health insurance, and unemployment insurance.*

**Keywords:** *labor relations, ride-hailing companies, sharing economy.*

## 1. AN OVERVIEW OF SUSTAINABLE BUSINESS DEVELOPMENT

The concept of “sustainable development” was first mentioned in the “World Conservation Strategy” of the International Union for Conservation of Nature (IUCN). However, the meaning of sustainable development in the “World Conservation Strategy” only covers the protection of biological resources.<sup>2</sup> Nevertheless, the “World Conservation Strategy” had a significant impact on the “Our Common Future” report of the World Commission on Environment and Development (also known as the “Brundtland Report”) and laid the basis for defining the principle of sustainable development.

In the “Brundtland Report,” sustainable development is defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”<sup>3</sup> The United Nations Conference on Environment and Development (UNCED), which was held in Rio de Janeiro (Brazil) in 1992, and the World Summit on Sustainable Development, which was held in Johannesburg (South Africa) in 2002, once again asserted and supplemented this definition. Accordingly, sustainable development is a development process that combines

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2 International Union for Conservation of Nature and Natural Resources. (1980). *World Conservation Strategy: Living Resource Conservation for Sustainable Development*. <https://portals.iucn.org/library/efiles/documents/WCS-004.pdf>

3 United Nations World Commission on Environment and Development. (1987). *Report of the World Commission on Environment and Development: Our Common Future*. Oxford University Press.

three aspects of development, namely (i) economic development, (ii) social development, and (iii) environmental protection.<sup>1</sup>

The concept of a sustainable business model has not been uniformly defined. According to Rex Freiburger, a sustainable business model is “one that generates value for everyone involved without being a drain on the resources that help create it.”<sup>2</sup> Similarly, Stefan Schaltegger, Erik G. Hansen, and Florian Lüdeke-Freund suggest that “a business model for sustainability helps describing, analyzing, managing, and communicating (i) a company’s sustainable value proposition to its customers, and all other stakeholders, (ii) how it creates and delivers this value, (iii) and how it captures economic value while maintaining or regenerating natural, social, and economic capital beyond its organizational boundaries.”<sup>3</sup>

Hence, we can draw two principal criteria for a sustainable business model: (i) creating value for all stakeholders; (ii) preserving the natural, economic, and social capital on which it relies.

(i) Creating value for all stakeholders

A sustainable business model requires harmonious development among economic, social, and environmental interests. Economic growth despite social justice will exacerbate the gap between rich and poor, leading to societal instability.

(ii) Preserving the natural, economic, and social capital on which it relies

There is no uniform understanding of natural, economic, and social capital. In this paper, we understand these concepts as follows:

First, natural capital is all the natural resources, including geology, soil, air, water, and all living things.<sup>4</sup>

Second, economic capital is a measure of capital risk. In other words, it is the amount of capital that a company needs to ensure its capacity to discharge its debts.<sup>5</sup>

Third, social capital is tangibly accumulated through people’s daily activities, expressed by goodwill, solidarity, sympathy, and social relations among members of the society.<sup>6</sup>

The natural, economic, and social capital are interdependent. For instance, the natural provides natural resources for the business. Meanwhile, the social capital offers human resources and consumers for the business. Finally, the economic capital not only maintains the industry but also contributes to the overall development of the society.<sup>7</sup>

1 Ministry of Industry and Trade. (2020). *Sustainable Development in Vietnam: Evaluation Criteria and Development Orientation*. Ministry of Industry and Trade Portal. <https://moit.gov.vn/phat-trien-ben-vung/phat-trien-ben-vung-oi-viet-nam-tieu-chi-danh-gia-va-dinh-huo.html>

2 Drew Hendricks. (2020). How to Create a Sustainable Business Model. *Business*. <https://www.business.com/articles/how-to-create-a-sustainable-business-model/>

3 Stefan Schaltegger, Erik G. Hansen, and Florian Lüdeke-Freund. (2015). Business Models for Sustainability: Origins, Present Research, and Future Avenues. *Organization & Environment*. doi.org/10.1177/1086026615599806

4 World Forum on Natural Capital. (2018). *What is Natural Capital?*. <https://naturalcapitalforum.com/about/>

5 Will Kenton. (2020). Economic Capital. *Investopedia*. <https://www.investopedia.com/terms/e/economic-capital.asp>

6 L. J. Hanifan. (1916). The Rural School Community Center. *The Annals of the American Academy of Political and Social Science*, Vol. 67, pp. 130 – 138. <https://www.jstor.org/stable/1013498?seq=1>

7 PwC Vietnam. (2019). Sustainable Development: An Inevitable Trend. *Vietnam Investment Review*. <https://www.tinnhanhchungkhoan.vn/phat-trien-ben-vung-xu-huong-tat-yeu-post220355.html>

Modern business models are gradually transforming from maximizing economic value for shareholders to maintaining natural, economic, and social capital, thereby creating value for all stakeholders. This change is necessary to ensure the survival and long-term development of any business model.<sup>1</sup>

## 2. AN OVERVIEW OF THE SHARING ECONOMY

There is no uniform definition of sharing economy. For instance, the sharing economy can be defined as a business model where the peer-to-peer activity of acquiring, providing, or sharing access to goods and services is usually expedited by a community-based online platform.<sup>2</sup> Similarly, in Vietnam, Chu Thi Hoa defines the sharing economy as a new business method of peer-to-peer business, an economic model in which assets and services are shared for many consumers in the market through the use of the digital platform.<sup>3</sup>

The sharing economy focuses on sharing goods, assets, or capital on the platform. Some services or assets are too expensive that many consumers cannot access due to insufficient financial resources. Meanwhile, several owners do not exploit these assets at their total capacity. Hence, thanks to the sharing economy, the owners can share their assets to earn more income, while the consumers may use these assets at reasonable prices. The sharing economy effectively mobilizes economic resources, thus improving social welfare and reducing negative environmental impacts.<sup>4</sup>

There are several ways to classify the sharing economy. Based on the asset owner and the price determiner, Judith Wallenstein and Urvesh Shelat divide the sharing economy into three main models.<sup>5</sup>

First, decentralized platforms. The asset owners decide on the terms and conditions (including the prices) of transactions. The platforms serve as an intermediary to facilitate transactions to earn commissions. Some examples of this model are Airbnb, Booking, and Agoda. In this model, the asset owners and the platforms merely have a cooperative relationship that the Civil Code 2015 governs.<sup>6</sup> Hence, there are no labor relations.

Second, centralized platforms. The platforms own assets, determine the prices, and have greater control over the business quality, availability, and standardization. Some examples of

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1 PwC Vietnam. (2019). Sustainable Development: An Inevitable Trend. *Vietnam Investment Review*. <https://www.tinnhanhchungkhoan.vn/phat-trien-ben-vung-xu-huong-tat-yeu-post220355.html>

2 The Investopedia Team. (2020). Sharing Economy. *Investopedia*. <https://www.investopedia.com/terms/s/sharing-economy.asp>

3 Chu Thi Hoa. (2021). The Sharing Economy and the Business Freedom. *Legislative Studies Journal*. <http://lapphap.vn/Pages/tintuc/tinchitiet.aspx?tintucid=210760>

4 Nguyen Dinh Luan. (2019). Sharing Economy and Its Potential in Vietnam. *Magazine of Finance*. <https://tapchitaichinh.vn/nghien-cuu-trao-doi/kinh-te-chia-se-va-tiem-nang-phat-trien-tai-viet-nam-302040.html>

5 Judith Wallenstein and Urvesh Shelat. (2017). Hopping Aboard the Sharing Economy. Boston Consulting Group. <https://www.bcg.com/publications/2017/strategy-accelerating-growth-consumer-products-hopping-aboard-sharing-economy>

6 According to Article 504(1) of the Civil Code 2015: "Cooperation contract means an agreement between individuals or legal entities on jointly contributing property and their efforts in order to perform certain tasks, to enjoy benefits mutually and to bear liabilities jointly."

this model are Zipcar and Rent the Runway. Unlike decentralized platforms, there are only two contracting parties in centralized platforms, namely the platforms and the consumers. Hence, there cannot be labor relations in this model.

Third, hybrid platforms. The asset owners must comply with the platforms' terms and conditions (including the prices). Ownership is decentralized, but standardization is centralized. Some examples of this model are Uber, Grab, and Gojek. Since the asset owners must adhere to the working conditions determined by the platforms, the issue of recognizing labor relations arises.

### 3. THE SUSTAINABILITY OF SHARING ECONOMY

The authors consider the sustainability of sharing economy under two criteria: (i) creating value for all stakeholders; (ii) preserving the natural, economic, and social capital on which it relies. The authors will analyze the business model of ride-hailing companies (such as Uber and Grab) to evaluate its sustainability.

#### (i) Creating value for all stakeholders

The appearance of sharing economy has brought many benefits to society, such as saving transaction costs, effectively using assets and resources,<sup>1</sup> and creating more job opportunities.<sup>2</sup> However, the sharing economy, especially the business model of ride-hailing companies, does not fairly distribute the benefits to its stakeholders.

First, for drivers. Their legal status is ambiguous, adversely affecting their legitimate rights and interests. Ride-hailing companies dominate the power to determine the terms and conditions for drivers and consumers. However, ride-hailing companies always insist that drivers are merely their "partners," thus refusing to pay social insurance, health insurance, unemployment insurance, and other occupational welfare for ordinary employees. Drivers are disadvantaged because they face many risks during their work, such as traffic accidents, harsh weather conditions, and stressful working environments.<sup>3</sup>

Second, for consumers. When ride-hailing companies declare that their drivers are not their employees, they not only decline to pay mandatory insurance to the drivers but also restrict their scope of civil liability towards the consumers. Let us assume the following situation: a driver of a ride-hailing company causes an accident while transporting a consumer. If the driver is considered an employee of the ride-hailing company, the company must compensate the consumer.<sup>4</sup> However, if the driver is merely a "partner" of the company, the driver should compensate the consumer

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1 Nguyen Manh Hai and Nguyen Hoang Anh. (2019). Benefits of Sharing Economy and Challenges for Managers. *Magazine of Finance*. <https://tapchitaichinh.vn/nghien-cuu-trao-doi/loi-ich-cua-mo-hinh-kinh-te-chia-se-vanhung-thach-thuc-cho-nha-quan-ly-302046.html>

2 Chu Thi Hoa. (2022). *Improving the Laws Regulating Sharing Economy in Vietnam*. Judicial Publishing House.

3 Vu Thuy and Le Phan. (2018). Risks of Technology Drivers. *Tuoi Tre*. <https://tuoitre.vn/rui-ro-nghe-tai-xe-cong-nghe-1474145.htm>

4 According to Article 597 of the Civil Code 2015: "A legal entity must compensate for any loss and damage caused by any person belonging to the legal entity during the performance of duties assigned by it [to such person]. If a legal entity has compensated for loss and damage, it has the right to demand the person at fault for causing the loss and damage to reimburse it an amount of money in accordance with law."

by himself.<sup>1</sup> While ride-hailing companies are usually multinational corporations with enormous financial resources, the drivers often have minimal income and assets to compensate. Hence, if ride-hailing companies can deny the labor relations, they can also shield themselves from civil liability toward the consumers.

Undeniably, some ride-hailing companies purchase personal accident insurance for customers. Nevertheless, the basis for paying personal accident insurance will be limited to the amount insured, the actual injury of the insured, and the agreed amount in the insurance contract.<sup>2</sup> If the actual damage exceeds the insurance coverage, the customer is at risk because the driver may not have sufficient assets to compensate for the remaining damage.

Third, for society. The Government is facing the risk of budget loss because ride-hailing companies refuse to pay social insurance, health insurance, unemployment insurance, and other occupational welfare. During the COVID-19 pandemic, hundreds of thousands of technology drivers have been affected. These drivers have no income, so they are eligible for government subsidies. Ride-hailing companies are doing business and making profits in Vietnam. Still, they conveniently shift their social security responsibility to the Government due to the lack of legal framework for labor relations in the sharing economy.<sup>3</sup>

The non-recognition of labor relations also causes trouble for ride-hailing companies. For instance, from 2017 until now, Grab drivers have repeatedly challenged Grab's policies by shutting down the app and gathering in front of Grab's headquarters or offices to complain.<sup>4</sup> In early 2022, gasoline prices sharply increased. In response, ride-hailing companies increased the fares but kept the commission rate unchanged. The policy of these companies not only reduced the income of drivers but also reduced the number of consumers. Hence, in March 2022, technology drivers turned off their apps to request ride-hailing companies to reduce the commission rate.<sup>5</sup>

Moreover, ride-hailing companies are facing multimillion-dollar lawsuits around the world.<sup>6</sup> In Vietnam, in 2017, Vinasun sued Grab for unfair competition. After three years of litigation, the Court partially accepted Vinasun's request and demanded Grab to compensate approximately 4.8 billion dongs to Vinasun.<sup>7</sup>

1 According to Article 584(1) of the Civil Code 2015: "A person harming the life, health, honour, dignity, reputation, property, or other legal rights or interests of another person, thereby causing loss and damage, must compensate [for such loss and damage], unless otherwise provided by this Code and other relevant laws."

2 According to the Article 33(1) of the Law on Insurance Business 2000 (as amended in 2010 and 2019): "In personal accident insurance, the insurance enterprise must pay insurance proceeds to the beneficiary within the range of the sum insured, based on the actual disability of the person insured and as agreed in the insurance contract."

3 Thy Le. (2020). Technology Drivers Are Exhaustedly Waiting for Social Insurance. *VNBUSINESS*. <https://vnbusiness.vn/an-sinh/lai-xe-cong-nghe-mon-moi-cho-dong-bhxx-1075240.html>

4 Phuong Linh. (2020). Strikes and Complains of Grab Drivers. *Investors' Magazine*. <https://nhadautu.vn/diem-lai-nhung-vu-dinh-cong-phan-doi-cua-tai-xe-grab-d46033.html>

5 Van Quyet. (2022). Grab Drivers Turn Off Their App to Request for Reduction of Commission Rate. *Transport Magazine*. <https://tapchigiaothong.vn/tai-xe-grab-tat-app-dinh-tai-doi-giam-chiet-khau-d94585.html>

6 Sam Levin. (2016). Uber Lawsuits Timeline: Company Ordered to Pay Out \$161.9M Since 2009. *The Guardian*. <https://www.theguardian.com/technology/2016/apr/13/uber-lawsuits-619-million-ride-hailing-app>

7 Thanh Phuong. (2020). Ending the Dispute Between Grab and Vinasun After Many Years. *Vietnamnet*. <https://vietnamnet.vn/vn/phap-luat/ky-su-phap-dinh/khep-lai-tranh-cai-giua-grab-va-vinasun-sau-nhieu-nam-623126.html>

(ii) Preserving the natural, economic, and social capital on which it relies

The failure of hybrid platforms to recognize labor relations between ride-hailing companies and their drivers is depriving social capital on which they rely. Ride-hailing companies determine the terms and conditions of transportation (including their drivers' working conditions), but they refuse to pay mandatory insurance and other occupational welfare. Hence, several drivers become dissatisfied, thus, adversely affecting the trust and cohesion between ride-hailing companies and their drivers. In this model, drivers transport consumers in their vehicles; ride-hailing car companies do not own these vehicles.<sup>1</sup> Therefore, the dissatisfaction of drivers, leading to the shutdown of their apps, will reduce the supply. For instance, the recent increase in gasoline prices has affected the income of technology drivers. Ride-hailing companies admit that the number of drivers has decreased significantly, so they must implement many bonus programs to retain drivers.<sup>2</sup>

Furthermore, consumers gradually switch to utilizing other means of transportation because the fares of ride-hailing companies are increasing significantly.<sup>3</sup> At difficult times, ride-hailing companies need the trust and the solidarity of drivers and consumers to maintain their business. However, the failure to recognize labor relations in hybrid platforms is detrimental to the social capital of ride-hailing companies.

The authors argue that the model of hybrid platforms, especially the business model of ride-hailing companies, is not sustainable because it fails to meet the two criteria. Consequently, ride-hailing companies face several legal disputes and challenges worldwide. The unsustainable development of sharing economy cannot bring long-term benefits to any participants.

#### 4. CASE STUDY: WORKING CONDITIONS OF GRAB DRIVERS IN VIETNAM

The sharing economy has attracted many workers because of its low qualification requirements, low investment, high flexibility in work, and high potential to earn income. For instance, as of 2019, Grab has more than 200,000 drivers.<sup>4</sup> Hence, the authors investigate the working conditions of Grab drivers in Vietnam to demonstrate its unsustainability and prove the need to recognize labor relations in this model.

(i) Income

In Hanoi, the average daily income of Grab drivers is 350,000 – 1,000,000 dongs if they work from nine to 16 hours.<sup>5</sup> Hence, the average monthly income (after deducting taxes, fees,

1 Zen Media. (2020). The New Playbook in the Gig Economy and Sharing Economy Ecosystem. *Zenmedia*. <https://zenmedia.com/blog/the-new-playbook-in-the-gig-economy-and-sharing-economy-ecosystem/>

2 Cong Trung. (2022). Ride-hailing Apps Seek to Retain Drivers. *Tuoi Tre*. <https://tuoitre.vn/app-cong-nghe-tim-cach-giu-chan-tai-xe-202205291715529.htm>

3 Nguyen Luan. (2022). Technology Drivers Face Difficulties When the Prices of Gasoline Increases Rapidly. *VNBUSINESS*. <https://vnbusiness.vn/viec-lam/tai-xe-xe-cong-nghe-kho-tru-khi-gia-xang-dau-tang-chong-mat-1084207.html>

4 Ministry of Planning and Investment. (2020). Draft Report on the Impact of Sharing Economy on the Vietnamese Economy. *Ministry of Planning and Investment Portal*. <https://www.mpi.gov.vn/Pages/tinbai.aspx?idTin=48375&idcm=140>

5 Center for Health Consultation and Community Development. (2021). *Report on Survey to Increase the Participation of Grab Drivers in Social Security Programs to Improve Their Working Conditions*, p. 19.

and gasoline costs) is 7,000,000 – 20,000,000 dongs.<sup>1</sup> Meanwhile, the average monthly income of Grab drivers in Ho Chi Minh City is 9,800,000 – 40,000,000 dongs.<sup>2</sup> Additionally, Grab drivers may enjoy some bonuses and other benefits.

The authors argue that the current income level is disadvantageous for Grab drivers because they must maintain excessive working hours and suffer safety and health risks. According to Huynh Thi Ngoc Tuyet, nearly 23% of motorbike drivers work at night (from 10 p.m. to 6 a.m.).<sup>3</sup> Nevertheless, since ride-hailing companies fail to recognize drivers as their employees, drivers are not entitled to overtime and night work wages.<sup>4</sup> Additionally, the drivers must deal with the risks of accidents, sexual harassment, and robbery.<sup>5</sup>

#### (ii) Working hours and rest periods

Ride-hailing companies always insist that their drivers can provide services at any time at their discretion. Nevertheless, the income of drivers depends on the actual driving time. Hence, Grab drivers must maintain long working hours (around 9 – 16 hours per day) to ensure their living.<sup>6</sup> The rest periods are sporadic. Most drivers do not turn off their apps during their lunch break. Additionally, ride-hailing companies usually induce their drivers to work during holidays, weekends, bad weather days, and peak hours by increasing the fares. Hence, the rest periods of Grab drivers are difficult to determine precisely.<sup>7</sup>

The average working hours of Grab drivers are around 12 – 14 hours per day and 26 – 28 days

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- 1 Center for Health Consultation and Community Development. (2021). *Report on Survey to Increase the Participation of Grab Drivers in Social Security Programs to Improve Their Working Conditions*, p. 19.
  - 2 Center for Health Consultation and Community Development. (2021). *Report on Survey to Increase the Participation of Grab Drivers in Social Security Programs to Improve Their Working Conditions*, p. 19.
  - 3 Ha Lan. (2022). Proposing to Supplement Social Security Policies for Technology Drivers. *Magazine of Environmental Economics*. <https://kinhtemoitruong.vn/de-xuat-bo-sung-chinh-sach-an-sinh-xa-hoi-cho-tai-xe-xe-cong-nghe-66702.html>
  - 4 According to Article 98 of the Labor Code 2019:
    1. Workers who perform overtime work are entitled to the wage payment calculated based on the wage unit for piece work or piece rate or the actual wages for the work that is being done as follows:
      - a) On regular days, equal to at least 150%.
      - b) On the weekly days off, equal to at least 200%.
      - c) On public holidays, New Year holidays and paid leave days, equal to at least 300%, excluding the wage for public holidays, New Year holidays and paid leave days if the worker receives a daily wage.
    2. Workers who perform work at night are entitled to an additional amount of at least 30% of the wage unit or the actual wages for performing the work during a regular working day.
    3. Workers who perform overtime work at night are paid according to Clauses 1 and 2 of this Article plus an additional amount of 20% of the wage unit or wage for performing the work during the daytime on a regular working day, weekly day-off, public holiday or New Year holiday.
    4. The Government shall provide details for this Article.
  - 5 Tuyet Mai. (2022). Death Penalty for Murdering a Technology Driver to Rob His Motorbike. *Tuoi Tre*. <https://tuoi-tre.vn/tu-hinh-hung-thu-sat-hai-tai-xe-xe-om-cong-nghe-de-cuop-xe-20220517113132821.htm>
  - 6 Center for Health Consultation and Community Development. (2021). *Report on Survey to Increase the Participation of Grab Drivers in Social Security Programs to Improve Their Working Conditions*, p. 19.
  - 7 Center for Health Consultation and Community Development. (2021). *Report on Survey to Increase the Participation of Grab Drivers in Social Security Programs to Improve Their Working Conditions*, p. 21.



per month.<sup>1</sup> These working hours may exceed the statutory maximum limits for employees and car drivers.<sup>2</sup> Overlong working hours not only threaten the health of drivers but also increases the risk of traffic accidents.

### (iii) Accessibility to social security

Since ride-hailing companies insist that drivers are merely their “partners,” they are not entitled to social insurance, health insurance, unemployment insurance, and other occupational welfare for ordinary employees. Hence, many drivers must participate in health insurance voluntarily and at their cost.<sup>3</sup> About two-thirds of Grab drivers express their desire to access social security programs.<sup>4</sup>

The inaccessibility to social security programs is seriously detrimental to technology drivers during the COVID-19 pandemic in Hanoi and Ho Chi Minh City. Since the drivers do not participate in social security programs, they are not entitled to unemployment benefits, even though they cannot work and have no income for several months.

## 5. RECOGNIZING AND GOVERNING LABOR RELATIONS IN THE SHARING ECONOMY IN VIETNAM

Currently, ride-hailing companies merely sign cooperation contracts with their drivers.<sup>5</sup> Accordingly, cooperating members have the right to participate in making decisions on issues relating to the performance of the cooperation contract and the supervision of cooperation activities.<sup>6</sup> Considering the relationship between ride-hailing companies and their drivers, the authors argue that it cannot be a cooperation relationship. Admittedly, the drivers contribute their labor and tools (such as means of transportation and mobile phones), while ride-hailing companies provide

1 Center for Health Consultation and Community Development. (2021). *Report on Survey to Increase the Participation of Grab Drivers in Social Security Programs to Improve Their Working Conditions*, p. 22.

2 According to Article 107(2) of the Labor Code 2019: “2. Employers are allowed to mobilize workers to work overtime when all the following conditions are fully met:

a) The worker’s consent must be obtained.

b) Ensuring that the number of overtime working hours does not exceed 50% of the normal working hours in a day. In cases where weekly normal working hours are applied, the total of the normal working hours and overtime working hours shall not exceed 12 hours in a day. The total overtime shall not exceed 40 hours per month.

c) Ensuring that the number of overtime working hours does not exceed 200 hours in a year, except in cases stipulated in Clause 3 of this Article.”

According to Article 65(1) of the Law on Road Traffic 2008 (as amended in 2018 and 2019): “In a day, an automobile driver must work for ten hours at most and must not be on the wheel for more than four hours in a row.”

3 Nguyet Ha. (2021). The Need to Ensure Social Insurance and Health Insurance for Technology Drivers. *Magazine of Social Insurance*. <http://tapchibaohiemxahoi.gov.vn/can-thiet-dam-bao-che-do-bhxxh-bhyt-cho-lai-xe-cong-nghe-68920.html>

4 Center for Health Consultation and Community Development. (2021). *Report on Survey to Increase the Participation of Grab Drivers in Social Security Programs to Improve Their Working Conditions*, p. 25.

5 According to Article 504(1) of the Civil Code 2015: “Cooperation contract means an agreement between individuals or legal entities on jointly contributing property and their efforts in order to perform certain tasks, to enjoy benefits mutually and to bear liabilities jointly.”

6 According to Article 507(2) of the Civil Code 2015, cooperating members have the rights “to participate in making decisions on matters relating to the performance of the cooperation contract and the supervision of cooperation activities.”

platforms to connect the drivers and the consumers. However, ride-hailing companies unilaterally issue their regulations and decide on the fares and discounts without consulting the drivers. Even when there is a complaint from the consumers, ride-hailing companies do not listen to both sides but often immediately apply sanctions against their drivers. In other words, the drivers have no right to negotiate with ride-hailing companies, and ride-hailing companies have the exclusive right to supervise the business. Therefore, the authors argue that ride-hailing companies misuse cooperation contracts to conceal the nature of the relationship between them and their drivers.

Should the relationship between ride-hailing companies and their drivers be classified as labor relations? Under the Labor Code 2019, two constitutive elements exist to establish labor relations, namely (i) remuneration and wages, and (ii) management, direction, and supervision by one contracting party.<sup>1</sup>

#### (i) Remuneration and wages

Wages are an amount paid by an employer to a worker under an agreement to perform work, including remuneration based on the work or position and wage allowances and additional payments.<sup>2</sup>

Some may argue that ride-hailing companies do not pay wages to their drivers. Instead, ride-hailing companies and their drivers share profits from the fares paid by the consumers. Nevertheless, Vietnamese Courts used to recognize labor relations between the boat owners and their fishermen, even though the fishermen's income came from the division of profits between boat owners and their fishermen (rather than fixed wages).<sup>3</sup> Hence, the element of remuneration should be satisfied if the workers earn income in exchange for their work.<sup>4</sup>

#### (ii) Management, direction, and supervision by one contracting party

The right of management, direction, and supervision is the key feature to recognizing labor relations and distinguishing labor relations from other legal relations.<sup>5</sup>

Currently, ride-hailing companies issue codes of conduct for drivers with some standard

1 According to Article 13(1) of the Labor Code 2019: "An employment contract is an agreement between a worker and employer about remunerated work, wages, working conditions and the rights and obligations of each party to the labor relations.

An agreement between two parties under a different title but with contents reflecting remunerated work, wages, and management, direction and supervision by one party will be an employment contract."

2 According to Article 90(1) of the Labor Code 2019: "Wages are a monetary amount paid by an employer to a worker under an agreement to perform work, including remuneration that is based on the work or position as well as wage allowances and additional payments."

3 Pham Cong Bay. (2010). The Court to Determine the Existence of Labor Relations in Labor Cases – The Status, Problems, and Solutions. *Unpublished Report*.

4 According to Article 3(2) of the Law on Employment 2013: "Employment means an income-generating working activity not banned by law."

According to Article 9(1) of the Labor Code 2019: "Employment is any working activity that generates income and is not prohibited by law."

5 Doan Thi Phuong Diep et al. (2019). *Textbook on Labor Law*. VNU-HCM Publishing House.

provisions, such as (i) requiring their drivers to comply with these rules, (ii) implementing a rating system to evaluate the performance of their drivers, (iii) specifying what actions are considered violations, and (iv) providing for sanctions if their drivers commit violations (usually preventing their drivers from logging in to the app for a specific time or getting banned from logging in forever).<sup>1</sup>

In the case of *Vinasun v. Grab*, the Court ruled that Grab stored and managed information of their drivers, received requests from the consumers, provided two-way information for their drivers and their consumers, decided on the route of vehicles, decided on the fares, directly received money from consumers, took care of consumers and dealt with feedbacks from consumers, deducted the income of their drivers if they did not satisfy the consumers. Hence, Grab drivers are dependent on the management and supervision of Grab.<sup>2</sup>

The authors argue that the classification of technology drivers as employees of ride-hailing companies creates a reasonable balance of interests between ride-hailing companies and their drivers and ensures fundamental rights for the drivers. Specifically, the authors argue for three fundamental rights as follows.

First, technology drivers should be entitled to minimum wages.

The essence of minimum wages is to ensure the minimum standard of living for employees and their families. Minimum wages also help the Government prevent exploitation and unfair competition in the labor market.<sup>3</sup>

The (old) Labor Code 2012 stipulated that the minimum wages shall be determined by time (month, day, and hour), region, and industry.<sup>4</sup> The (current) Labor Code 2019 stipulated that the minimum wages shall be determined by time (month and hour) and region.<sup>5</sup> Nevertheless, before 2022, the Government did not specify hourly minimum wages.<sup>6</sup> In the past, the minimum wages were only applicable to employees in formal sectors. However, about half of Vietnamese workers are self-employed or working in business households or small and medium-sized economic areas, which are beyond the scope of application of the minimum wages.<sup>7</sup>

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1 Grab. (2022). *Code of Conduct: Driver / Delivery Partner Guidelines*. <https://www.grab.com/ph/terms-policies/code-of-conduct-driver/>

Nguyen The Duc Tam and Le Bao Khanh. (2022). Recognition of Labor Relations in the Sharing Economy: The U.S. Experience and Implications for Viet Nam. *State and Law Review*.

2 Judgement no. 05/2020/KDTM-PT dated 10 March 2020 of the Superior Court in Ho Chi Minh City. <https://congboanan.toaan.gov.vn/2ta486497t1cvn/chi-tiet-ban-an>

3 Tran Hoang Hai et al. (2022). *Textbook of Labor Law*. Hong Duc Publishing House.

4 According to Article 91(1) of the Labor Code 2012: "Minimum wage is the lowest payment for an employee who performs the simplest job in normal working conditions and must ensure the employee's minimum living needs and his/her family.

The minimum wage must be determined on a monthly, daily and hourly basis by region or sector."

5 According to Article 91(2) of the Labor Code 2019: "The minimum wage is determined by the regions and fixed on a monthly and hourly basis."

6 Hong Chieu. (2022). Minimum Hourly Wages Were Forgotten for Ten Years. *VNExpress*. <https://vnexpress.net/luong-toi-thieu-theo-gio-bi-bo-quen-suot-10-nam-4468356.html>

7 Thuy Dung. (2018). Hourly Minimum Wages Will Help Protect Vulnerable Workers. *The Saigon Times*. <https://thesaigontimes.vn/luong-toi-thieu-theo-gio-se-giup-bao-ve-nguoi-lao-dong-yeu-the/>

Decree no. 38/2022/ND-CP has, for the first time, established the hourly minimum wages, which are (i) 22,500 dongs per hour for Region I, (ii) 20,000 dongs for Region II, (iii) 17,500 dongs for Region III, and (iv) 15,600 dongs for Region IV.<sup>1</sup> The hourly minimum wages are equivalent to the monthly minimum wages divided by the standard working hours under the Labor Code.<sup>2</sup>

The new regulation on hourly minimum wages will improve the coverage of statutory minimum wages and increase the flexibility of the labor market. Therefore, the application of minimum wages to protect technology drivers is feasible.

Second, technology drivers should be entitled to statutory maximum working hours limits.

The essence of maximum limits of working hours is to protect the health and safety of employees.<sup>3</sup> Technology drivers are not entitled to statutory maximum working hours limits, threatening their physical and mental health. These provisions on working hours should apply to technology drivers to safeguard their interests and the interests of society in general.

Third, technology drivers should be entitled to social insurance, health insurance, and unemployment insurance.

Extensive coverage of social security programs is essential to protect the legitimate rights and interests of workers. Currently, compulsory social insurance omits some groups of workers, such as those who are working under flexible regimes.<sup>4</sup> Hence, the Law on Social Insurance should include workers in the sharing economy in the scope of compulsory social insurance.<sup>5</sup>

Additionally, the proposal to expand the scope of health insurance is in line with the Constitution 2013.<sup>6</sup>

Some people may express their concerns about the feasibility of paying mandatory insurance contributions on each trip. However, the authors argue that mandatory insurance payment is feasible for two reasons. First, ride-hailing companies (such as Grab<sup>7</sup>) have developed their app to record the transaction history and income statements of their drivers. Hence, the drivers can straightforwardly determine their wages. Second, ride-hailing companies are currently deducting an amount of the income of their drivers on each trip to pay taxes for them. Therefore, ride-hailing companies can make the same deduction and payment for mandatory insurance contributions.

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1 Article 3(1) of the Decree no. 38/2022/ND-CP.

2 Anh Thu. (2022). Three Ways to Calculate the Hourly Minimum Wages. *Lao Dong*. <https://laodong.vn/cong-doan/3-cach-tinh-muc-luong-toi-thieu-gio-1054592.ldo>

3 Tran Hoang Hai et al. (2022). *Textbook of Labor Law*. Hong Duc Publishing House.

4 Ministry of Labour, Invalids and Social Affairs. (2021). Report on the Proposal to Amend the Law on Social Insurance. *Ministry of Labour, Invalids and Social Affairs Portal*. <http://duthaovanban.molisa.gov.vn/detail.aspx?tab=2&vid=781>

5 Ministry of Labour, Invalids and Social Affairs. (2021). Report on the Implementation of the Law on Social Insurance 2014. *Ministry of Labour, Invalids and Social Affairs Portal*. <http://duthaovanban.molisa.gov.vn/detail.aspx?tab=2&vid=781>

6 According to Article 58(1) of the Constitution 2013: “The State and society shall make investments to further the protection of and care for the People’s health, implement the universal health insurance, and adopt policies to prioritize health care for ethnic minority people and people living in mountainous areas, on islands, and in areas that have extremely difficult socio-economic conditions.”

7 Grab. (2022). *How to Read My Earnings Breakdown*. <https://help.grab.com/driver/en-sg/360030722632>

## 6. CONCLUSION

The sharing economy is a contemporary business model which comes into existence in the Fourth Industrial Revolution. Besides many socio-economic benefits, the sharing economy, especially hybrid platforms, is not sustainable due to the failure to recognize labor relations between the platforms and the service providers. Consequently, hybrid platforms (such as ride-hailing companies) face legal troubles worldwide. Nevertheless, the unsustainability of this business model is not beneficial to any participants. Hence, ride-hailing companies should genuinely classify their drivers as their employees to balance the interests of all participants in the sharing economy. Moreover, the drivers must be entitled to fundamental rights, notably (i) statutory minimum wages, (ii) statutory maximum working hours limits, and (iii) social insurance, health insurance, and unemployment insurance.

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# RCEP AND CHALLENGES FOR TRADE AND INVESTMENT TO VIETNAM

PhD. Le Thanh Ha<sup>1</sup>

**Abstract:** *The Regional Comprehensive Economic Partnership (RCEP) agreement has officially come into force from January 1, 2022, as Australia and New Zealand became the two latest members of 15 signed states to ratify the agreement. It is said that the forms of intraregional trade will be further diversified and facilitated, enriching the Asia-Pacific region's economic vitality through inclusive and sustainable economic recovery amid the pandemic and threats of Russia-Ukraine conflict possibly causing new global crises. Consequently, closer ties among Vietnam and other RCEP signatory nations will not only lead to a more convenient and orderly development environment but also help boost exchange and foreign investment for the economy.*

**Keywords:** *RCEP, Vietnam, trade exchange and investment, regional, tariffs...*

## 1. INTRODUCTION

Prior to the first of January, 2022, 15 countries, including all 10 ASEAN members along with Australia, China, Japan, South Korea, and New Zealand signed the RCEP on November 15, 2020. This free trade agreement is seen as the world's largest trading bloc. The deal has been in the works for over eight years and was signed virtually at the ASEAN Summit 2020 hosted in Hanoi, Vietnam. The entry into force of the RCEP Agreement is a manifestation of the region's resolve to keep markets open; strengthen regional economic integration; support an open, free, fair, inclusive, and rules-based multilateral trading system; and, ultimately, contribute to global post-pandemic recovery efforts. As of 2020, the trade bloc covers 28% of global GDP, 28% of global trade and 29% of the global population - the sheer size is impressive and unprecedented.

RCEP sets an important agenda by releasing huge resources for trade and investment, and creating dynamic regional and global value-chain activities. It is a critically important framework for global trade and regionalism, especially given the current context of uncertainty and inward-looking policies due to the coronavirus disease (COVID-19) pandemic. It provides an impetus for global trade and investment and supports open regionalism.

Similarly to the previously other free trade agreements (FTA) including CPTPP, EVFTA, UKVFTA, the recent RCEP will reduce tariffs and set trade rules, link up supply chains, particularly as governments struggle with COVID-19 effects. This FTA is expected to cover all aspects of business including trade, services, e-commerce, telecommunications, and copyright though negotiations over some aspects still need to be finalized. Tariffs are expected to be reduced within 20 years. Specifically,

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Vietnam and 14 member countries will eliminate tariffs on at least 64% of tariff lines as soon as the agreement takes effect. By the end of the roadmap after 15-20 years, Vietnam will eliminate tariffs with about 85.6% - 89.6% of tariff lines with partner countries, while partner countries will rule out an extent from 90.7% to 92% of tariff lines in return. Regardingly, ASEAN countries will exclude a schedule concession for Vietnam in a range of 85.9% - 100% of imposts.

Regarding to foreign trade activities, in recent year, Vietnam has shown its effort to integrate into the global supply chains via myriad FTAs, including some high standard and comprehensive ones such as CPTPP, EVFTA, RCEP. This supports Vietnam import-export turnover to reach a new record of over USD 668 bn. in 2021 despite challenges from the pandemic, enjoying continuous double-digit growth in the last 10 years with the great contributions from large trading partners such as US, China, EU, ASEAN, Korea and Japan

Inspite of being suffered during pandemic in 2021, Vietnam has been seen a slight decrease in FDI into the country, realizing some US\$19.74 billion over the year. That has been further compounded by closed borders, social-distancing request and an inability for investors to travel. As yet the investor market has been relatively slow to reach Vietnam, mainly due to Covid, it is supposed that things to improve over the course of 2022, meaning there is still time to take advantage of Vietnam's manufacturing capabilities and lower overall production costs to access the RCEP markets where double the size of those included in the CPTPP. As Vietnam moves to become a high-tech manufacturer, the RCEP can help local firms increase exports and attract high-quality goods for its consumers. At the same time, however, the RCEP poses some inevitable challenges for Vietnam as it has to raise its standard to keep up with higher demand and intense competition.

## **2. LITERATURE REVIEW**

The World Bank (2022) assesses the economic and distributional effects of the implementation of the Regional Comprehensive Economic Partnership (RCEP). Reductions of tariffs and non-tariff measures, implementation of a rule of origin, together with productivity gains stemming from trade cost reductions can strengthen regional trade and value chains among Regional Comprehensive Economic Partnership members. The research shows aggregate effects mask large variety of outcomes across countries, with Vietnam expected to register the highest trade and income gains. Implementation of the RCEP help partially mitigate the negative economic impacts of COVID-19 in the East Asia and the Pacific region. It is also noted that once the RCEP takes effect, Vietnamese businesses would face competition both domestically and in export markets as well.

Alessandro Nicita (2021) analyzed the reason the RCEP will further advance trade relationships among signatory members, especially for those not previously regulated by any trade agreement. By enhancing market access conditions, largely by reducing tariffs and implementing trade facilitation measures, RCEP countries are a step closer to becoming a regional trading bloc. Additionally, its impact on international trade is expected to be significant. The economic size of the emerging bloc and its trade dynamism will make it a centre of gravity for global trade.

As for trade relations and intra-RCEP trade, according to Lisandra Flach, Hannah Hildenbrand, Feodora Teti (2021), RCEP creates the world's largest free trade zone. The agreement has the

potential to increase trade relations among its members and further promote the development of regional value chains in “Factory Asia”.

For foreign investment, Tran et al (2021), suggested that, RCEP also has both opportunities and challenges intertwined. Vietnam has more opportunities to attract FDI from a large shift of investment out of China due to the impact of the U.S.- China technology and trade war, as well as new trends of global value chains relocation as the result of COVID-19 pandemic. However, the challenge is not that limited, due to: (i) recognizing and effectively dealing with a deficit trade balance associated with foreign investment in the RCEP market is a sizeable challenge, even more complex; (ii) defining the quality of FDI projects seems to be a suitable policy but not easy to implement after the RCEP takes into effect; (iii) Controlling the flow of foreign investment from the RCEP countries and the implications for macroeconomics remains a complicated issue; and (iv) difficulties in balancing attracting and protecting investors and decision-making of Vietnam’s authorities.

In Vietnam, several researches on the impact of the Regional Comprehensive Economic Partnership (RCEP) to Vietnam’s economy can be referred to Nguyen Anh Duong et al (2015), Tran Quyen (2020), Vu Thu et al. (2021) assessed chances brought by the RCEP Agreement, consisting goods, services exchange and investment.

### **3. METHODOLOGY**

The author uses a qualitative approach, considering and reviewing issues that may affect the effective implementation of the RCEP and benefits to Vietnam, focusing on the trade and investment aspects. Accordingly, Vietnam’s import-export and investment activities are subject to both the adjustment of domestic trade and investment and other relevant policies (labor , foreign exchange management, etc.). Additionally, international context (specially U.S-China trade war, COVID-19 and recent Russia-Ukraine conflict) and the implementation of FTA commitments (including RCEP) cause effects on export demand, stable supply of inputs source and the attraction of FDI inflows into Vietnam whereas requirements for institutional reforms and admendment to improve production capacity, competitiveness and business environment in Vietnam are becoming increasingly urgent.

Also, a comprehensive measurement of analysis, assessment and comparison with available documents and data on import-export and investment to appraise Vietnam’s foreign trade and investment developments since the date of agreement signatory; thereby recognizing the impact, opportunities and challenges of the RCEP agreement on Vietnam’s trade and investment as well as the competency of the economy.

### **4. RESEARCH DISCUSSION**

#### **4.1. Trade exchange status among RCEP members**

Under the RCEP framework, trade liberalization will be achieved through gradual tariff reductions. Many tariffs will be abolished immediately, while others will be reduced gradually during a 20-year period. Remaining tariffs will be largely limited to strategic sectors, such as agriculture and the automotive sector, in which many of the RCEP members have opted out

from any liberalization commitments. This agreement also goes beyond tariff concessions and encompasses other areas of cooperation to foster regional integration among its members. For instance, by setting up a time limit for the release of goods at customs and harmonizing rules of origins businesses are facilitated to take advantage of the preferential terms of the agreement. RCEP will further advance trade relationships among signatory members, especially for those not previously regulated by any trade agreement. By enhancing market access conditions, largely by reducing tariffs and implementing trade facilitation measures, RCEP countries are a step closer to becoming a regional trading bloc. Additionally, its impact on international trade is expected to be significant. The economic size of the emerging bloc and its trade dynamism will make it a centre of gravity for global trade.

The RCEP facilitation measures are set to boost regional trade and economic co-operation among the 15 members, who are already the major traders in Asia and Oceania. Their total exports and imports in 2020 amounted to some US\$5.5 trillion and US\$4.7 trillion respectively, constituting about 70% of the combined trading activities of the two regions. Coupled with a few regional traders outside the RCEP, such as the major re-export hub in the region, Hong Kong, as well as India and Taiwan, they together accounted for over 85% of the total trade of the two regions. When the RCEP agreement has been implemented since January 2022 at the earliest, the trading activities of these major players are expected to grow further.

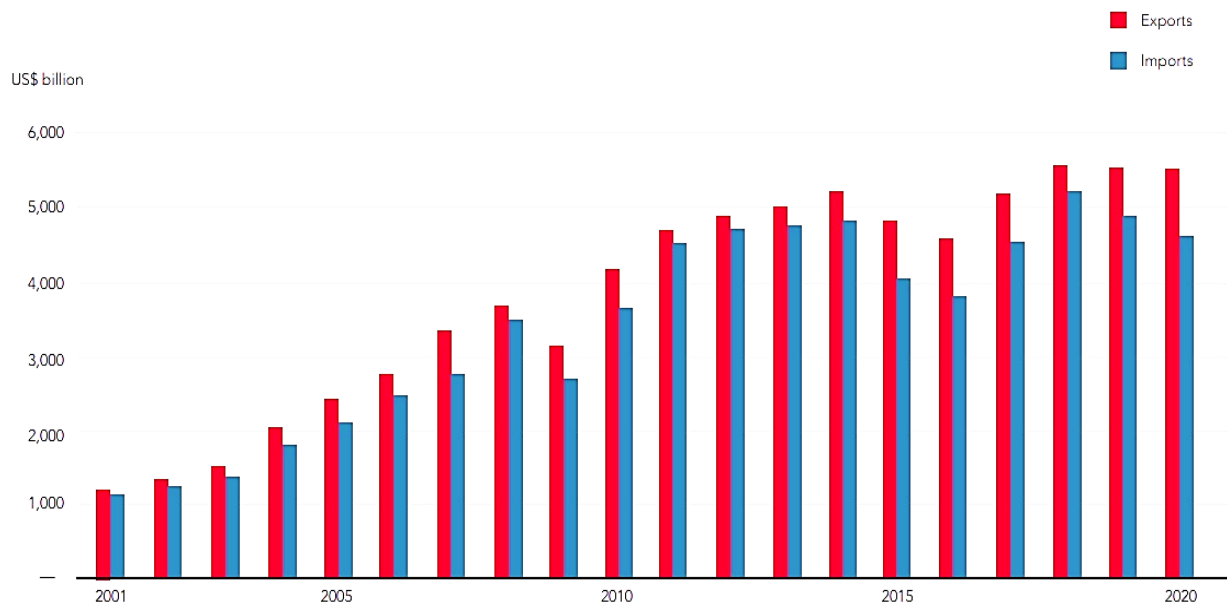


Figure 1: Total Exports and Imports of RCEP Members

Source: ERIA (2022).

The trading activities of most Asian countries have been growing rapidly for the last two decades, thanks to the booming export-oriented production. Absolutely, mainland China is the largest exporter as well as the largest import destination among the RCEP members. It accounts for 47% of RCEP exports and 44% of RCEP imports in 2020, both up from 21% in 2001, the year when the mainland joined the WTO. Despite mainland China’s remarkable performance, it is noteworthy that ASEAN’s percentage share declined only marginally (both ASEAN exports and

imports, particularly those of Singapore, Thailand, Malaysia, Indonesia and Vietnam, increased strongly in value terms during the period), as global relocation of production and sourcing activities also benefited production sites in ASEAN.

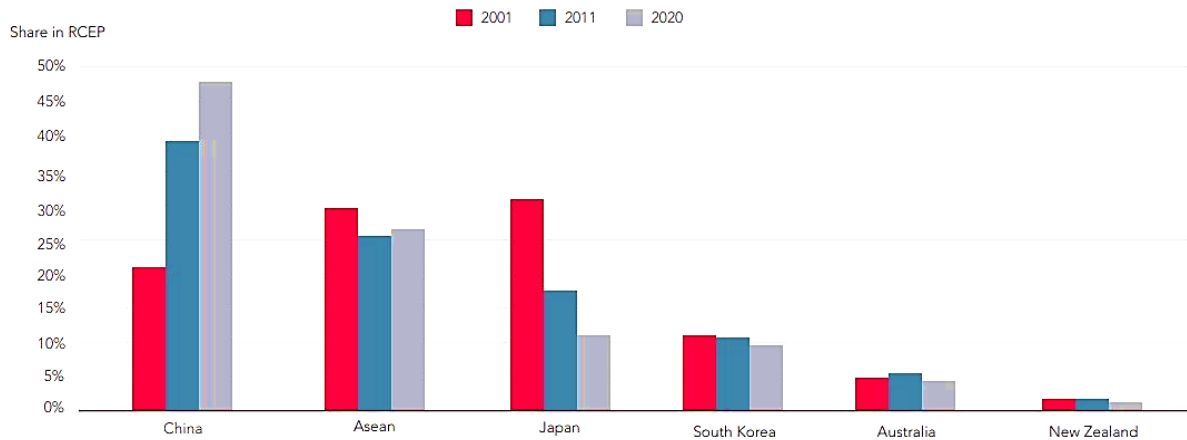


Figure 2: Exports of RCEP Members

Source: ERIA (2022).

However, during the pandemic a deepening of economic ties between ASEAN and its Asian counterparts is discernible. The share of trade between ASEAN and its RCEP counterparts in the first semester of 2021 has increased to 46% from 43% in pre-covid 2019, this is mainly attributed to these tightened economic ties between China and ASEAN. The trade between China and ASEAN accounts for around a quarter of ASEAN's total world trade with external members, up from one fifth in 2016. On the other hand, the fall in ASEAN's trade with Japan and Korea accounts for the decreasing share in ASEAN's total trade with external members.

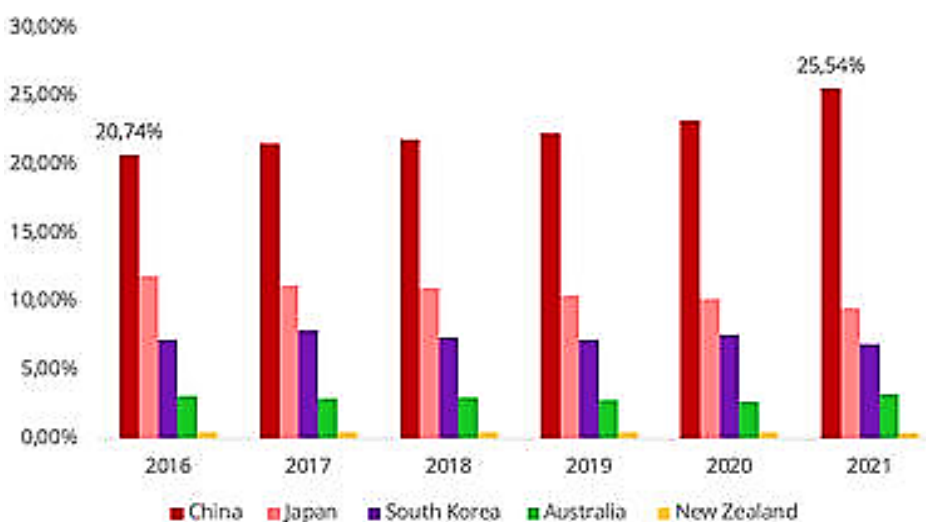


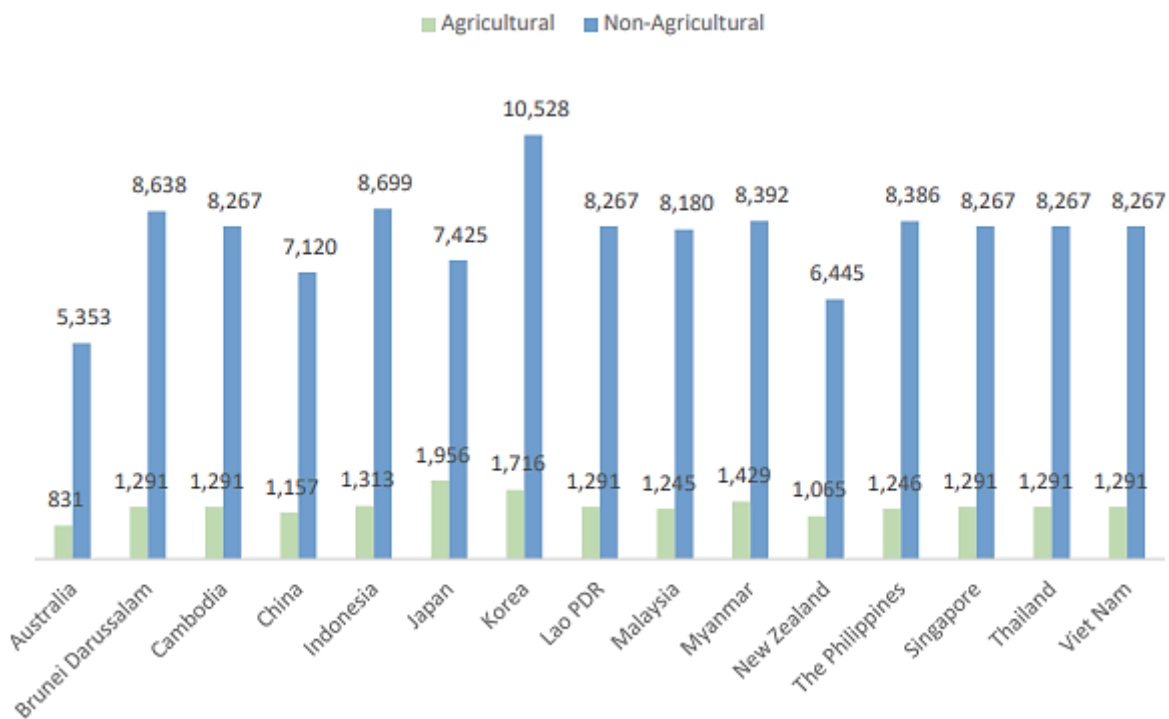
Figure 3: Share of trade between ASEAN and its RCEP counterparts in ASEAN's trade with the world

Source: ERIA (2022).

**4.2. Tariff concession under RCEP**

Most RCEP economies are already relatively open to trade, both because of their low WTO MFN tariffs and their participation in other regional trade agreements. In fact, prior to the RCEP, most of its member countries already had trade agreements in place, such as ASEAN. Overall, since import tariffs between many RCEP members were already low, the agreement will mostly reduce these tariffs on imports from China, Japan and the Republic of Korea. For ASEAN members, along with Australia and New Zealand, the share of products with zero tariffs was already above 90 per cent, thus the main areas of opportunity for tariff reductions were with the other RCEP members.

RCEP economies negotiated a total of 140,205 tariff lines, of which 19,704 (14.1%) are agricultural products, whereas 120,501 (85.9%) are non-agricultural products. Figure 4 shows that the number of negotiated non-agricultural tariff lines far exceed the number of negotiated agricultural tariff lines for all RCEP economies.



**Figure 4: Number of negotiated tariff lines for agricultural and non-agricultural products**

*Data Source: RCEP Legal text.*

In FTAs, base tariffs usually represent the Most-Favored Nation (MFN) tariff rate prior to when the negotiations started. Thus, base tariffs indicate the starting point of tariff rates before any preferential tariff liberalization is in place. Among RCEP economies, the average base tariff imposed on all products has ranged from a low of 0.0% in Singapore to a high of 13.5% in Korea, which is a combination of low and moderate average base tariffs when negotiations started. This wide range of base tariffs is a result of multiple factors, including an economy’s level of development, production structure, or strategic interest.

RCEP allows for tariff concessions to discriminate across members. More specifically, countries can remain uncommitted to liberalization, or decide to reduce tariffs more slowly on trade originating from specific RCEP members. In practice, while some members' tariff concessions uniformly apply to all members, many RCEP members have decided to substantially vary their level of commitments across trading partners, both in relation to uncommitted products and magnitude of concessions.

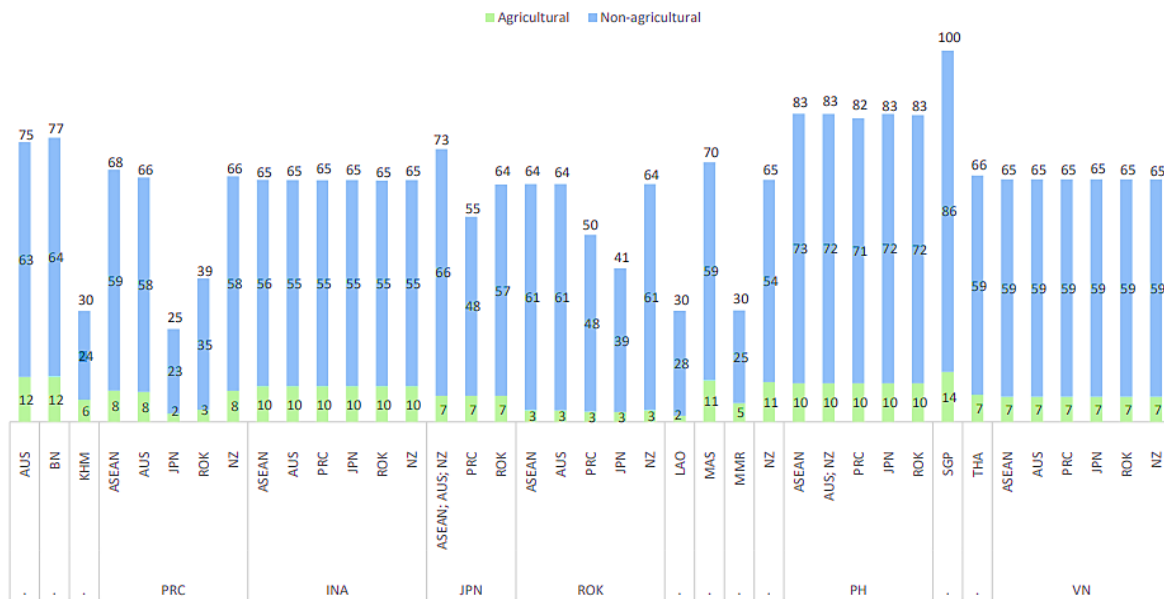
Tariff concessions vary substantially across RCEP members (Table 1). An application of low tariffs would necessarily be lower than the concessions of countries where the existing tariffs are higher. In the example of Australia and New Zealand the percentage of products covered by tariff concessions is very low because almost all of their tariffs are already at zero (98.6 per cent). On the other hand, tariff concessions by China, Japan and the Republic of Korea are larger and wider in coverage because of the relatively higher tariffs they currently apply.

**Table 1: Tariff concessions by RCEP member**

	Pre-RCEP		RCEP concessions		RCEP exceptions	
	Percentage of lines with zero tariff	Percentage of lines with non-zero tariffs	Percentage of lines for tariff reduction	Average concession (percentage points)	Percentage of lines remaining uncommitted	Average tariff on uncommitted lines
ASEAN	91.1	8.9	3.9	9.0	5.0	20.9
Australia and New Zealand	98.6	1.4	1.0	4.9	0.4	3.6
China	71.6	28.4	19.6	9.8	8.8	16.7
Japan	79.5	20.5	8.2	7.4	12.3	32.3
Republic of Korea	70.4	29.6	20.3	9.7	9.3	110.7

*Data Source: RCEP Legal text.*

Upon RCEP's entry into force, the share of duty-free tariff lines will vary between 25.0% (i.e., China's offer to Japan) and 100.0% (i.e., Singapore's offer). RCEP economies that offered immediate duty-free tariff liberalization for at least 75.0% of tariff lines are: Australia (75.3%); Brunei Darussalam (76.5%); the Philippines (between 81.9% to 83.0%); Singapore (100.0%) with Vietnam remains below that level (59% to 65%). In comparison, Cambodia (29.9%); Lao PDR (29.9%); and Myanmar (30.0%) offered a noticeably smaller percentage of tariff lines under full immediate liberalization.



**Figure 5: Share of duty-free tariff lines at RCEP's date of entry into force, %**

Source: RCEP Legal text, Annex I.

Note: AUS (Australia); BD (Brunei Darussalam); KHM (Cambodia); PRC (China); INA (Indonesia); JPN (Japan); ROK (Korea); LAO (Lao PDR); MAS (Malaysia); MMR (Myanmar); NZ (New Zealand); PH (the Philippines); SGP (Singapore); THA (Thailand); VN (Viet Nam).

The tariff liberalization process agreed in RCEP has been more complex. In the CPTPP, each party offered only one tariff liberalization schedule to the rest of the partners, in the mean time, RCEP has 39 different liberalization schedules for 15 parties. Specifically, nine RCEP members have one liberalization schedule offered to all RCEP members, whereas six RCEP members have differentiated tariff liberalization schedules that range from three to six, depending on the origin of the product. In RCEP, the period for tariff lines to be fully liberalized ranges from immediate liberalization (Year-1) to 21 years. With the exception of Singapore, which liberalizes all goods upon RCEP's date of entry into force, all other RCEP members fully liberalize most of their goods at least throughout three different periods.

**Table 2: Time periods for full liberalization in RCEP by members RCEP Member**

RCEP Member	Time (years)	RCEP Member	Time (years)
Australia	Immediate, 3, 7, 10, 15, 20	Lao PDR	Immediate, 13, 15, 20
Brunei Darussalam	Immediate, 10, 15, 20	Malaysia	Immediate, 10, 15, 20
Cambodia	Immediate, 13, 15, 20	Myanmar	Immediate, 13, 15, 20
China	Immediate, 10, 11, 15, 16, 20, 21	New Zealand	Immediate, 10, 15
Indonesia	Immediate, 5, 10, 15, 20	The Philippines	Immediate, 15, 20
Japan	Immediate, 11, 16, 21	Thailand	Immediate, 10, 15, 20
Korea	Immediate, 10, 15, 20	Viet Nam	Immediate, 10, 11, 15, 16, 20

Data Source: RCEP Legal text.

RCEP's tariff concessions broadly follow the patterns predicted by trade theory. Their outcome implies a certain degree of cooperation during negotiations among RCEP's members. Such patterns result in an increase in overall economic efficiency and overall welfare within RCEP.

### **4.3. Rules of Origin**

The harmonisation of the rules of origin is probably the most important achievement of RCEP. Although barriers for bilateral trade, for instance between ASEAN and Australia, are low, the structure of bilateral treaties that were so far regulating trade policy in the Asian region are a challenge for exporters: Every trade agreement has its own set of rules, the so-called rules of origin, that must be complied with in order to receive the preferential market entry.

To qualify for preferential market access, exporters need to provide proof of origin, a relatively low threshold, will be treated as locally manufactured, i.e. all exported goods need to be produced mostly within the respective free trade area. For instance, Chinese automobile exporters need to prove that at least 40% of their production took place either in China or in another ASEAN country to receive duty-free access to Laos, or previously, a product made in Vietnam but with parts from South Korea may face tariffs somewhere else in the ASEAN free trade zone, but with the RCEP in effect, the product would qualify to meet rules of origin guidelines. If this proof is not provided, a tariff of 20% applies. Similar rules apply to automobile exporters who supply to other countries with whom China has signed an agreement. There will be a harmonized certificate of origins that will be used among the member states. As such, the harmonized Rules of Origin is anticipated to significantly reduce the administrative burden for intra-regional trade. However, in this case only the intermediate inputs from the respective partner count when determining the share of domestic production.

### **4.4. Trade Effects**

Overall, RCEP tariff concessions are expected to increase trade within RCEP by nearly US\$ 42 billion, equivalent to almost 2 per cent of total exchange (2019). Most of the effects would be driven by trade diversion (about US\$ 25 billion) away from non-member countries. Trade creation due to lower tariffs would contribute about US\$ 17 billion. As shown in Table 3, Japan would benefit the most from RCEP tariff concessions, largely because of trade diversion effects. Japan's exports are expected to rise by about US\$ 20 billion, an increase equivalent to about 5.5 per cent relative to Japan's exports to RCEP members in 2019. Substantial positive effects are also found for the exports of most other economies, including Australia, China, the Republic of Korea, and New Zealand. On the other hand, RCEP tariff concessions possibly result in lower exports for Cambodia, Indonesia, Philippines and Viet Nam. The reason for this is the negative trade diversion effects, as some exports of these economies are expected to be diverted to the advantage of other RCEP members because differences in the magnitude of tariff concessions and economy-scale advantages.



**Table 3: RCEP members export changes due to tariff concessions**

	Overall Effects (billion US\$)	Trade Diversion (billion US\$)	Trade Creation (billion US\$)	As percentage of exports to RCEP
RCEP Members	41.8	25.2	16.6	1.8
● Japan	20.2	15.7	4.5	5.5
🇨🇳 China	11.2	6.9	4.3	1.8
🇰🇷 Republic of Korea	6.7	4.4	2.3	2.0
🇦🇺 Australia	4.1	2.8	1.3	1.9
🇳🇿 New Zealand	1.1	0.8	0.3	4.5
🇲🇾 Malaysia	0.2	-0.3	0.6	0.1
🇸🇬 Singapore	0.2	-0.3	0.5	0.2
🇱🇦 Lao People's Democratic Republic	0.1	0.0	0.1	2.7
🇲🇲 Myanmar	0.1	0.0	0.1	1.2
🇧🇷 Brunei Darussalam	0.0	0.0	0.0	0.6
🇹🇭 Thailand	0.0	-1.1	1.1	0.0
🇵🇭 Philippines	-0.1	-0.2	0.2	-0.1
🇰🇲 Cambodia	-0.3	-0.4	0.0	-3.9
🇮🇩 Indonesia	-0.3	-0.8	0.4	-0.3
🇻🇳 Viet Nam	-1.5	-2.3	0.8	-1.2

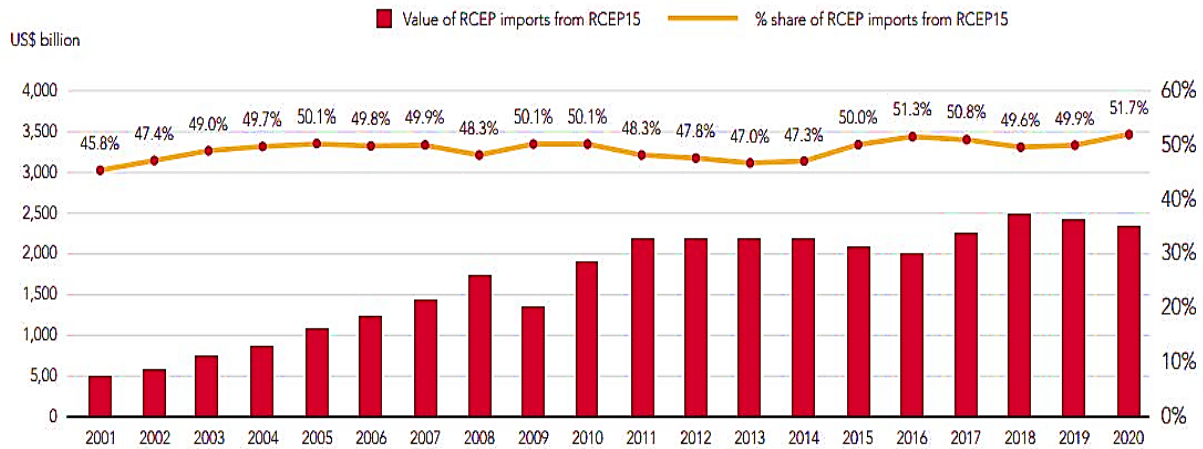
Source: UNCTAD (2021).

For global value chains (GVCs), low trade barriers between participating countries are particularly important because products cross country borders multiple times – with high barriers, high costs accumulate, and this type of production becomes unprofitable. Therefore, with the emergence of GVCs in Asia, RCEP members have had great incentives to liberalise trade policy, at least in sectors that are relevant for “Factory Asia”, i.e. intermediate goods for complex industrial goods.

#### 4.5. Regional Supply Chains

From the perspective of import sourcing, the interdependence of regional supply chains is even more obvious. Over half of the imports by RCEP members in 2020 (US\$2,420 billion) were sourced from “RCEP suppliers”, up from the 45.8% level in 2001 (US\$526 billion). The ASEAN bloc and mainland China are again the major sources of such intra-regional imports. In particular, the mainland China has become the largest source, and its share increased markedly from 9.3% in 2001 to 16.9% of import sources in 2020. ASEAN was the second largest source of imports for RCEP members, with its share edging up from 15.6% to 16.4% in the period. Japan’s share shrank to 7.1% in 2020, while South Korea’s share edged up to 6.5%. The US share of the import sources

declined markedly from 15.2% to 8.2% during 2001-2020, due mainly to the massive relocation of the country's production to Asia and other low-cost regions. In contrast, the EU's share declined only marginally to 11.0% in 2020, as the trade bloc has maintained its supplies of industrial goods like machinery and equipment to RCEP members in the last two decades.



**Figure 5: Major Sources of RCEP Imports**

*Source: Wing Chun and Yuki Qian (2021).*

The mainland China and other advanced RCEP economies such as Japan, South Korea, Singapore and Australia, have already built up mature industrial production systems. Although some ASEAN economies only have relatively basic industrial foundations, most of them enjoy the comparative advantages of ample labour supply and low production costs. The lower-cost ASEAN members are suitable for more labour-intensive production. Some of the ASEAN economies can also manufacture industrial products that require more demanding inputs of technology and capital.

The industrial bases across Asia have re-aligned to use their comparative advantages to engage in different upstream and downstream manufacturing operations, while strengthening their business co-operation with foreign trading partners in the region. The rapid expansion of intra-regional trade is a reflection of the increasingly close supply-chain relationships built up among various production bases in Asia.

Capitalising on regional trade, upstream and downstream enterprises along the supply chains have started to specialise in their operations for division of labour. A wide range of raw materials, parts and components, and intermediate goods are thus produced, while certain materials and key parts and components are imported from abroad for the final assembly of various finished goods in Asia. These are then mostly exported to markets of consumer goods and endproducts in the EU, US and elsewhere in the globe. Asia will continue to remain the global centre for production and sourcing after the implementation of the RCEP agreement. Exports from RCEP members to other markets will grow, and this in turn will stimulate the development of sustainable supply chains among the members, fuelling the further expansion of intra-regional trade as a result.

For investors operating across ASEAN, China, and other regions – RCEP offers good news. Streamlined customs procedures, unified rule of origin, and improved market access will make investing

in multiple location – a much more viable and attractive investment strategy and likely bring “China + 1” business models to the fore. The common rule of origin will lower costs for companies with supply chains that span across Asia and may encourage multinationals to RCEP countries to establish supply chains across the bloc, thus growing the global value chain activity in the region.

Through new market access commitments and streamlined, modern rules and disciplines that facilitate trade and investment, RCEP promises to deliver new business and employment opportunities, strengthen supply chains in the region, and promote the participation of micro, small and medium enterprises into the regional value chains and production hubs.

#### 4.6. Current state of Vietnam’s foreign trade and investment under RCEP facilitation

##### *Foreign Trade*

The RCEP, which came into force on January 1, 2022, has also fostered the entry of goods exported in and out of Vietnam as it reduces cost, improves market access as well as offers streamlined customs procedures. In terms of regulatory and financial incentives, Vietnam has become increasingly investor-friendly in recent years –the government has taken such actions as reforming its financial sector, streamlining business regulations, and improving the quality of its workforce.

Vietnam economic growth is estimated to rebound in 2022 when the Government has steadily reopened the economy from early Oct 2021, switching from a “Zero-Covid” to “Living with Covid” policy together with the implementation of an efficient vaccination program. The manufacturing, trade flows, and domestic mobility has bounced back very quickly and based on these movements, several international donors (IMF, ADB) have estimated that Vietnam may rebound and reach 6.5% growth in 2022.

Vietnam is seeing strong growth on multiple fronts. Of particular interest to investors has been the continuing growth of Vietnam’s domestic consumer market, which has been developing by leaps and bounds. This growth is expected to continue for some time to come - domestic consumption is predicted to increase at a rate of 20 percent per year. With a population of over 97 million and Southeast Asia’s fastest-growing middle class, Vietnam clearly represents an important market for foreign goods. Compared to 2017, the US has overtaken China for being the largest export market for Vietnam.

**Table 4: Main export markets for Vietnam (2019 - 2021)**

*Unit: USD bn.*

No	Export Markets	Export Value		
		Year 2019	Year 2020	Year 2021
1	U.S	61.4	76.4	96.3
2	China	41.4	48.5	56.0
3	EU	41.5	34.8	45.8
4	ASEAN	25.2	23.1	29.2
5	South Korea (ROK)	19.7	18.7	22.0
6	Japan	20.4	19.2	20.1
7	Hong Kong	7.2	10.4	12.0

*Source: MOIT (2022).*

One of the most noticeable points in the RCEP is that this agreement has been designed to reduce costs and time for business people, and the deal allows them to export goods to each member market without having to meet that market's own requirements. This will help investors increase funding in Vietnam, for example, for the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), enterprises from Vietnam will find it difficult to take advantage of tariff incentives for their garments and textiles due to tough requirements in the rule of origin (ROO) applied commonly within the bloc because many types of materials Vietnam need are imported from China, which is not a CPTPP member. However, for the RCEP, the burden of import costs for input materials will be reduced thanks to tariff incentives. Additionally, the RCEP will greatly benefit Vietnam's many key export items including garments and textiles, agricultural products, and aquatic products exported to the member markets like Japan and South Korea.

Specifically, under the Vietnam-Japan FTA and ASEAN-Japan Comprehensive Economic Partnership and under the Korea-Vietnam FTA and the ASEAN-Korea FTA, the garments and textiles are subject to meeting second-phase ROO, meaning material must be produced within ASEAN or Japan or South Korea before receiving tariff incentives. Meanwhile, under the RCEP, Vietnam can import it from everywhere and conduct production in its territory, and the products can enjoy tariff incentives when exported to Japan or South Korea.

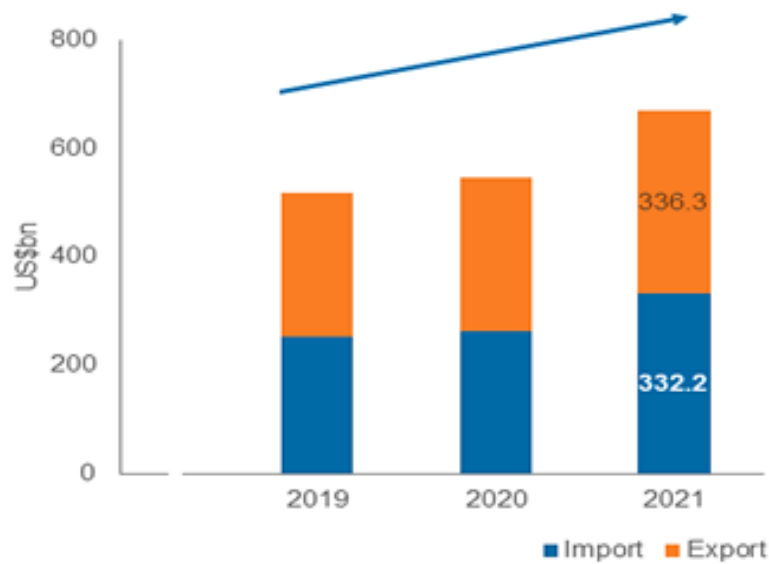
**Table 5: Main import markets to Vietnam (2019 - 2021)**

*Unit: USD bn.*

No	Import Markets	Import Value		
		Year 2019	Year 2020	Year 2021
1	China	75.5	83.9	109.9
2	South Korea	46.9	48.5	56.2
3	ASEAN	32.1	30.0	41.1
4	Japan	19.5	20.5	22.7
5	Taiwan	15.2	10.6	20.8
6	EU	14.9	14.5	12.0
7	US	14.4	13.7	15.3

*Source: MOIT (2022).*

Similarly for aquatic products, those agreements require ROO in Vietnam, but the RCEP allows the country to import breeds from anywhere or source the breeds from inside of its territory, and all export products are still entitled to tariff incentives. According to the Centre for WTO and International Trade, in 2021, Vietnam earned an export turnover of \$132.32 billion from RCEP markets, up 16 per cent on-year, and spent \$238.5 billion on imports from these economies - meaning a \$106.18 billion trade deficit. Thus it is expected to help Vietnam attract more investments from the member states and enable domestic companies to seek more partners.



**Figure 6: Vietnam import-export turnover 2019 - 2021**

*Source: MOIT (2022).*

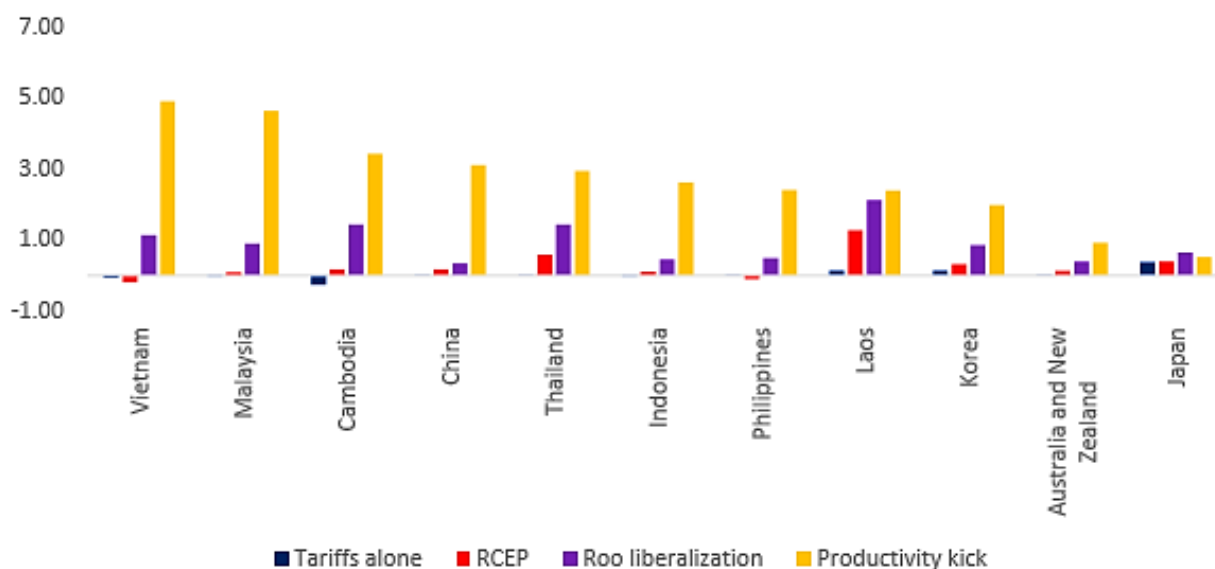
In addition to helping Vietnam amplify its trade with the deal's member countries, and unlike almost other multilateral free trade agreements (FTAs) that have Vietnam's membership, the RCEP will especially help Vietnam attract more investment from markets that are its top 10 foreign investors including South Korea, Singapore, Japan, China, Thailand, and Malaysia. RCEP appears to causing a big trade deficit as Vietnam's commitments on import tariff reductions are almost the same as other FTAs, and the demand for Vietnamese goods from those markets has been rising strongly. Meanwhile, almost all products imported into Vietnam are used for production and then re-exported to member countries and the wider world. Under the deal's commitments, member states commit to eliminating between 88 and 98 per cent of tariff lines for Vietnam, and ASEAN countries vow to do that with 86-100 per cent of tariff lines. The longest roadmap for tariff elimination is 15-20 years from when the agreement took effect.

According to the World Bank (2022), Vietnam is expected to register the highest trade and income gains among member countries. To estimate the economic and distributional impacts of the agreement in Vietnam, the WB formulated a baseline and four alternative scenarios based on different circumstances. In the baseline, between 2020 and 2035, the average trade-weighted tariff imposed by Vietnam falls from 0.8 to 0.2 per cent, while the tariffs faced by Vietnam are reduced from 0.6 to 0.1 per cent. The four policy scenarios will measure implementation incrementally. The first scenario is exclusively the implementation of tariffs according to the reduction schedules where all participating countries benefit from the RCEP, although the gains are not distributed equally and depend on the trade policy changes (Figure 6). Considering the full scenario, with reductions in tariffs, non-tariff measures, and trade costs, Lao PDR, Thailand, Cambodia, Vietnam, and Malaysia benefit the most. These positive gains are magnified when a productivity kick is assumed. Under this scenario, the real income in Vietnam and Malaysia increases almost 5%.

**Table 6: Tariff granted to Vietnam in RCEP**

RCEP partners	Rates with immediate removal (per cent)	Rates to be eliminated at the end of roadmap (per cent)	Maximum roadmap for tariff removal (years)
Australia	75	98	20
Brunei	76	98	20
Cambodia	30	87	20
South Korea	64	91	20
Indonesia	65	92	20
Laos	30	86	20
Malaysia	70	90	20
Myanmar	30	86	20
New Zealand	65	91	15
Japan	56	82	21
Philippines	81	91	20
Singapore	100	100	0
Thailand	66	91	20
China	68	90	20

Source: WTO Centre (VCCI).



**Figure 6: Real income gains by country in RCEP: Percentage change relative to business-as-usual scenario, 2035**

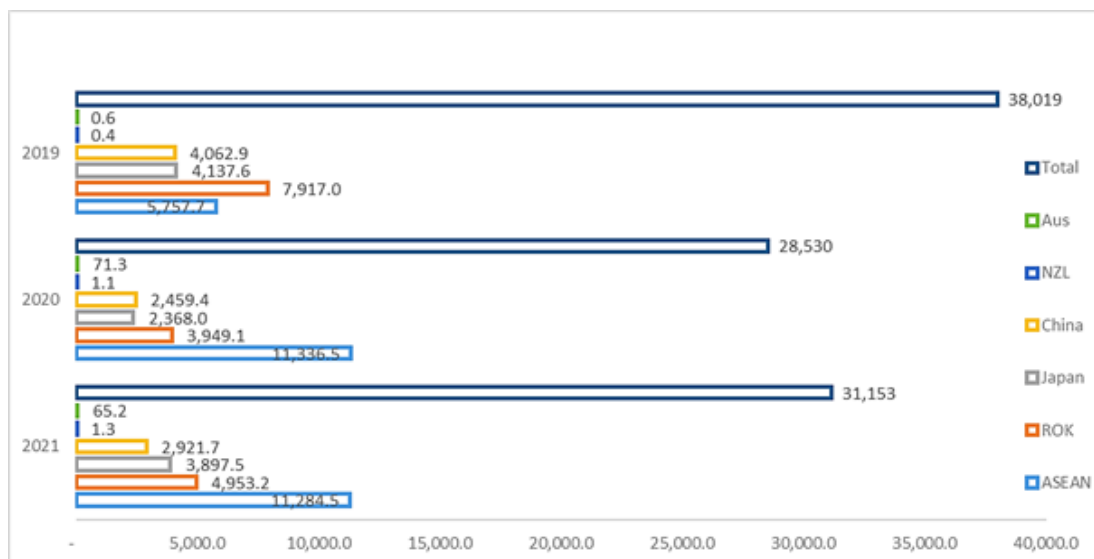
Source: World Bank (2022)

With implementation, the market for Vietnam will expand, particularly to China, where Vietnam does not currently possess any trade agreement. Gains in the productivity kick scenario are concentrated mostly in the manufacturing sector, in particular apparel, electrical equipment, and textiles...

*Foreign Direct Investments*

Vietnam remains an attractive destination for foreign investors in time to come. The strong fundamentals of Vietnam economy come from two main factors: compelling domestic demands (thanks to favorable demographic, social and political stability) and strong export-driven economy and committed integration to GVCs via 15 FTAs Vietnam joined in recent years. The fact is that foreign investments in sustainable and environmentally friendly sectors such as clean energy, electricity vehicles, recycling businesses are strongly encouraged by central and provincial Governments. Besides, some notable opportunities by sector for foreign investments in Vietnam are logistics (i.e warehousing, coldchain etc.), technology, financial services, utility (i.e clean energy, water supply, waste treatment etc.), manufacturing (i.e part, packaging, consumer goods etc.), and industrial real estate.

Year 2021 highlighted the approx. USD 31.2 billion of FDI inflows, an increase of 9.2 per cent on-year made Vietnam be the third-largest FDI receiver of ASEAN + 6 and one of the ASEAN countries that retained annual growth despite the lockdown, restrictions on entry and the quarantine policy during the time of the serious Covid-19 outbreak again in Vietnam. Foreign-invested enterprises have become a key economic engine in the country, now accounting for a quarter of total investment capital and 55 per cent of total industrial production value. This confirms that the nation’s business and investment environment is improving, making foreign investors believe in the success of doing business in Vietnam and leading them to increase their investment capital, expand their business opportunities, and gain more profits. Parallel with others FTA, RCEP creates a framework to simplify customs procedures. Besides, such agreement establishes rules of origin, facilitates trade, and creates spaces for production connections across ASEAN. When the RCEP comes into effect, Vietnam can increase export opportunities to 14 members and helps the economy to recover from COVID-19 losses. RCEP will contribute to creating a new trade structure in the region, promoting globalization towards trade liberalization and facilitation. Upon these favors, a new wave of foreign investment can find a suitable place like Vietnam to flow in. Therefore, in general, RCEP is important for Vietnam.



**Figure 7: Vietnam’s FDI capital from RCEP economies over 2019 - 2021 (bn. USD)**

*Source: Foreign Investment Agency, MPI (2022).*

While RCEP also creates an environment with highly diverse economies, these include economies with potential investment capital or technology, economies that have a lot of input materials. This is an important premise for the full development of the supply chain, thereby creating a unified production space. With Vietnam sourcing a significant portion of its production inputs from countries like China and South Korea, which were earlier not part of trade pacts, it stands to benefit and further enjoy preferential tariffs. A single rule of origin document would be sufficient to cover all RCEP countries.

Therefore, the RCEP should also help in reducing manufacturing costs and make life easier for enterprises by letting them export products anywhere within the bloc without meeting separate requirements for each country.

#### **4.7. Challenges to Vietnam**

Undertaking RCEP also means the locally manufactured industry will face the biggest challenge of goods from other countries that can be imported into Vietnam at lower tariff rates, even if other RCEP's competitors have no cost of goods sale adjusted, their goods will then still be more competitive in price when being launched to Vietnam's market and eventually, causes a huge trade deficit to the trade balance. Table 4 and 5 illustrate an increasingly large number of deficit value in bilateral trade over years between Vietnam with South Korea, China and the ASEAN while that with Japan appears to arise. For instance, besides immense loss to China being from a main input supply, the trade deficit with South Korea has grown particularly rapidly since 2015 after the Vietnam-Korea Free Trade Agreement (VKFTA) was signed and became effective. This shows an obvious fact that Vietnam is currently in trade deficit with 13 out of 15 RCEP economies.

A major challenge to Vietnam local enterprises is that RCEP could create a risk of trade diversion, which exactly, expands the competition with China. Joining Vietnam-Japan Agreement (VJEPA), Vietnam - Korea (VKFTA) and ASEAN+1 agreements has brought to Vietnam competitive advantages and preferences over China relating to exports to these markets. However, things may be changed with RCEP where China has more tariff incentives and concession than before. RCEP facilitations and absolute comparatives possibly make Chinese products surpass trading inflow to above sites and therefore, will multiply competition with Vietnam and ASEAN. For example, Vietnam's textiles and garments are exported to Japan with preferential tariffs of about 10% while that for Chinese items fluctuate in 15-20%, or in a case of footwear products, amid Vietnam-origin enjoyed a tariff of less than 5%, China has been imposed 30%. Once being into effect, RCEP erases this. Compared to the members of the bloc, Vietnamese enterprises are weak in terms of capital size, equipment capacity, technology level, management and labor skills. Therefore, Vietnamese enterprises, especially textile enterprises, will be at a much more disadvantage in dominating the markets of other countries than China.

The Russian-Ukrainian military conflict and back-and-forth sanctions have a negative impact on Vietnam's economy. Accordingly, not only having difficulties in the shortage of input supply from Russia and the disruption of exports of products to Russia - Ukraine, Vietnamese enterprises are under pressure to cost of raw materials supply especially fast-rising energy expense, which increases inflationary pressures. In addition to the inadequacies, broken production and supply



chains, risks of logistics and international payments are placing a burden on import and export activities when the world fluctuates. Avoiding risks, investors tend to move to areas with more stable political backgrounds make an opportunity for Vietnam to attract new investment.

However, Vietnam also could face many obstacles. Specially, legal matters would occur more often. Ownership rights, intellectual property, and e-commerce are some matters that participators should pay attention. Moreover, fair competition law is also notable for enterprises.

With regards to FDI, as seen in Figure 7, RCEP partners account for massive percentage of annual FDI inflow to Vietnam even with or without RCEP agreement. In addition to the bright side, the monitor on the flow of foreign investment from the RCEP economies and the consequences for the macro-economy remains a sizable challenge. Foreign investment flow attracted into Vietnam from RCEP economies will unlikely be substantial improvement if the impact on Vietnam's macroeconomics is not handled appropriately. Reviewed quantitative assessment models of the impact of FTAs in general and RCEP in particular unveils a reality that seems unable to quantify the impact on FDI inflows. If not properly screened as expected, a part of FDI projects can cause adverse macro impacts such as: (i) increasing amount imports of goods and trade deficit instead of connecting with local enterprises and improving domestic production capability; (ii) FDI inflows may exceed Vietnam's absorption capacity, in terms of macro management, infrastructure arrangement and human resources. These risks can hardly be ruled out, as major investors from RCEP all have their own supply networks and are not bound to locally procure.

## 5. RECOMMENDATION AND CONCLUSION

In order to strengthen the strength and robustness of the economy when implementing the RCEP agreement, the reform factor is especially important to Vietnam. In particular, harmonizing the process of institutional reform when implementing FTAs is important. First of all, Vietnam needs to achieve constant improvements to the macroeconomic foundation as a whole, including competitiveness, business environment, production factor markets. These reforms must be based on a policy foundation to maintain stability and strengthen the resilience of the economy.

Secondly, the investment policy must be centred around both orientations towards sectors, either which the priority of protection is taken over or competition freedom is promoted, and the definition of the level of value chain participation in the RCEP along with that of encouragement in attracting and facilitating FDI projects. Moreover, trade policy should be consistent with investment policy, thereby effectively and harmoniously helps fixing the issue of trade deficit and incomplete parts import in line with the participation of domestic enterprises in regional and or global value chain. In addition, Vietnam needs to tackle hindrance to foreign investors and partners relating to in infrastructure and human resources at the appropriate level of development.

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# DEVELOP OF NIGHT-TIME ECONOMY IN SOME COUNTRIES AND LESSONS LEARNED FOR VIETNAM

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**Abstract:** *The night economy is increasingly recognized as a growth engine in many economies. Vietnam also has many favourable conditions for developing the night economy, but this model in Vietnam is still relatively new and has not contributed much to economic growth. It is essential to learn and study night-time economic development models in some countries around the world from which to draw profound lessons and apply them to specific conditions in Vietnam is very necessary and meaningful. The article focuses on studying the current situation and policies to promote the night economy in the UK and China. At the end of the article, some recommendations for developing the night economy in Vietnam will be given.*

**Keywords:** *Night economy, night- economy development, Vietnam, China, UK*

## 1. INTRODUCTION

Night-time economics is a relatively new concept in Vietnam, although the concept is no stranger to Britain, the United States, Australia, France, Japan, Thailand and China. The development of the night-time economy brings Australia 27.2 billion USD each year, 66 billion pounds to the UK and makes outstanding contributions to GDP and national budget in many countries around the world, especially in the developing countries. Most countries share the same opinion, considering the night-time economy is not an integral part of the economy but focuses on developing service activities that take place from 6 pm to 6 am the next day, specifically: cultural services, entertainment, sports, food services, shopping services, tourism, festivals, family events. Today, the night-time economy is more than just a service activity that serves the youth in urban areas. As more and more businesses and service providers expand their operating hours in the evening, the night economy has attracted more ages. It is becoming more and more inclusive by serving a variety of demographic groups.

In Vietnam, on July 27, 2020, the Prime Minister issued Decision No. 1129/QĐ-TTg approving the Night-time Economic Development Scheme, paving the way for the night-time economy to grow. The objective of the project is to exploit the potential of night-time economic development in order to make the most of new economic development opportunities, improve people's income and living standards, and at the same time limit risks and negative impacts on the work of ensuring political security and social order and safety.

After the decision No. 1129/QĐ-TTg approving the Night Economic Development Project in Vietnam, the government allowed the pilot to extend the time of night service activities to 6

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a.m. the next morning in some attractive tourist destinations with favourable conditions to manage risks of service activities at night in some big cities/centres where there are a lot of tourists, such as Hanoi, Quang Ninh, Hai Phong, Ho Chi Minh City, Da Nang, Hoi An, Thua Thien-Hue, Can Tho, Da Lat, Phu Quoc. On the basis of the pilot, the performance and management of night-time economic activities will be evaluated in selected places to build and perfect the night-time economic activity model and then replicate it in other areas and other places.

In fact, the night-time economy also appears in some major cities and tourist centres in Vietnam, such as Hanoi, Ho Chi Minh City, and Da Nang. However, night-time economic activities are in Vietnam. In general, it is still poor, monotonous, not properly planned and arranged, and few recreational activities are professionally organized, so it has not brought about high economic efficiency. In addition, the development of the night economy will inevitably have shortcomings, along with problems of social evils, security and order, which require macro-management from the state.

Studying the experiences of previous countries helps Vietnam learn successful lessons and limitations to develop and better manage night-time economic activities.

## **2. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES**

Night-time economy is a topic that has received much research from many domestic and foreign scientists as well as managers, including the following typical research works:

Studies about concepts, connotations or activities in the night-time economy, such as those of Gary Boyle (2021) [4], and Matthew M.Chew (2020) [8], the authors argue that the night-time economy is used to describe a range of economic activities between 6 p.m. and 6 a.m. the next morning. It includes food service, bars, art, and the night-time economy is an important part of the tourism business.

Referring to the role of the night-time economy, there are studies by M.Roberts (2005) [9], Simon Blackburn (2019) [13], and Thuy Linh (2020) [6]. Studies show that the benefits of the night-time economy are huge, such as improved living standards; increased choice opportunities for people when looking for entertainment and recreation spots; increased employment; increased business investment

Presenting the experiences of big cities as well as the experiences of countries in night-time economic development, Nguyen Duc Bao and his team (2021) [1] and Nguyen Thanh Tuong (2022) [15] mentioned the experience of night-time economic development of the UK, China, France, the United States, Thailand...and compared the primary night-time forms of these economies. The authors argue that management policies in countries showing flexibility and diversity do not follow a stereotypical policy framework for night-time economic development. Specifically: Firstly, regarding the organizational model of the management apparatus, most of the countries developing the night economy have decentralized the management of this economic activity to local government levels (city level, district level). Second, they focus on expanding and improving the public transport system, increasing the service time at night. Third, regarding financial support policies, China and Japan have implemented specific subsidy programs for business activities, consuming goods and services at night, or promoting a nocturnal schedule of

tourism activities. Fourthly, on the policy of implementation, management, licensing, commercial centres, convenience stores, supermarkets, restaurants, sports and entertainment centres are encouraged to extend the opening hours at night. Fifth, in terms of policies to increase human resources, developed countries around the world have long-term preparation for the quality of the night working environment as well as the skills and abilities of workers when working at night when joining this particular economy.

Research on potentials, opportunities, challenges and solutions for night-time economic development in Vietnam includes studies by Bui Thi Lien (2020) [7], Nguyen Thi Dieu and Hoang Hai Ninh (2021) [3], Tran Duc Trung (2021) [16], Le Manh Hung (2021) [5], etc. Most of the studies show that Vietnam has many conditions and opportunities to develop the night-time economy, such as diversified tourism resources, unique culture, art and cuisine; Vietnam has a large young population, concentrated in cities with a high degree of integration and globalization, relatively pleasant night weather. In particular, Vietnam has a stable and favourable political background for night-time economic development. However, the dark corner behind the sparkle of the night-time economy is social evils (prostitution, drugs, gambling, crime), so it is indispensable to provide a direction for prevention and synchronous management, comprehensive for the night economy to develop according to the wishes set forth by the state.

The review of research works on night-time economic development shows that the new works mainly stop studying individual countries or separate issues, so they do not have a systematic and comprehensive view. Although there are also a few studies on the experience of developing night economy in countries around the world and drawing lessons for Vietnam, the study also spans many countries, so it is not possible to be detailed, specifically about night-time economic development policies in those countries.

In this study, the author does not study in many countries like the previous works, but only focuses on two countries, England and China, but will analyze in detail and specifically the current development and policy situation management of the night economy in two countries with a dynamic and efficient night economy in the period from 2010 to 2021, thereby providing valuable lessons and lessons that can be applied on specific conditions in Vietnam.

### **3. METHODOLOGY**

The primary research method used in the article is the qualitative method; Specific methods used to solve the problems posed during the research include:

Document research method: Based on collected domestic and foreign sources, including books, specialized journals and other research works, simultaneously focusing on exploiting official documents from libraries and the Internet to synthesize, compare, analyze and evaluate content related to the night economy.

Statistical methods: The data is statistically processed and presented in a clear way, from which trends are drawn, making the most objective judgments possible about the research object.

A systematic, comprehensive and logical analysis method when studying activities and policies of night economic development in the UK, China and Vietnam.

#### **4. RESEARCH RESULTS**

##### **4.1. The concept and nature of night-time economy**

The night-time economy is recognized as having substantial social and economic impacts in the contemporary western context. Urban planners and local policymakers have broadly and enthusiastically embraced the concepts of “night-time economy” and “twenty-four-hour city” since the 1990s. Many cities, especially European ones, constructed nightlife districts in order to facilitate urban renewal, tourism, taxation, and the cultural economy

In the broadest sense, “Night-time economic is all social, cultural and productive activities that take place during the night time frame”. The widest night time frame is defined as from 06 pm the previous evening to 06 am the next morning. This understanding has the advantage of not discriminating economic activities by industry, type and time frame which is wide enough to cover all research and exchange on night-time economic in countries. However, this understanding does not represent the specific types and economic activities of the night-time economic. For example, some production activities may simply take place in the night time frame without directly serving the people’s consumption and rest needs during this time frame.

In some countries, the time frame considered for nighttime economic activity can be from 05 pm the night before to 4 am the next morning. The definition of economic night time varies from country to country. However, the nature of the night-time economic is often analyzed into two time periods, that is, before 08 pm and after 08 pm. The period before 08 pm is typically characterized by purely consumer activities and caters to different groups of people and ages. The period after 8 pm is usually an exciting time, mainly attracting young people from 18 to 40 years old, concentrated in city centers with pubs, bars and some fast food restaurants.

In a narrower sense, night-time economic is a collection of economic - cultural activities taking place from 06 pm the night before to 4 am the next morning and mainly includes recreational activities, including: bars, discos, karaoke facilities, restaurants, music venues, fashion shows, performing arts, sightseeing and other forms of nightlife (night markets), commercial areas at night...). This narrow definition is currently being used by many countries such as the USA, UK, China...

In Vietnam, the concept of “night-time economic” currently has many definitions, but the most common “night-time economic” is understood as all service activities that take place after 6 pm the previous evening until 6 am the next day, including: shopping at night markets, 24/24 convenience stores, food, art, music, entertainment programs, festivals, events, to tourist attractions only open door at night.

According to experts, night-time economic and service activities bring many benefits to both tourists and locals. Specifically, along with daytime service activities, visitors have space to have fun, cultural exchanges, enjoy food, shop for souvenirs, and participate in folk games.

In fact, there is no difference between daytime economic activity and night-time economic activity, leading to the absence of pure night economic activity. With that view, the night-time economic is mainly an extended form of a number of daytime economic activities in a certain area to serve the needs of tourists and people. Thus, it can be said that night-time economic activities have been taking place today, not a new activity or concept (due to the provisions of law (time), custom (type of production and business) which operate only for the specified time) [12]. On that basis, determine the core problem of night economic development, which is to expand operating time, to be policy mechanisms, to plan the space for activities, to change habits, to manage state in the operating time frame is extended...

## 4.2. Experiences in developing night-time economy in some countries around the world

### 4.2.1. Night-Time Economy in the UK

The UK is a leading country in developing the “night-time economy”. In 2017, London Mayor Sadiq Khan appointed Amy Lame to hold the “Night Czar” position to lead the “London’s Night Czar” project. This project aims to enhance nightlife services and activities, promote culture and attract tourists, create jobs and increase income for workers; while maintaining order and security, ensuring a healthy nightlife, towards the goal of making London a leading 24-hour city in the world.<sup>1</sup>

In addition, this country established the Night-Time Industries Association - NTIA (Night Industry Association) to study the night industry. In 2016, Transport for London completed the implementation of the Night Tube plan. Night Tube is a service model of the “underground” and “overground” metro system to provide travel services on Friday and Saturday nights for tourists on some lines in London, there is an average midnight train every 10 minutes. The Night Tube is expected to bring London 77 million pounds by 2029, create more than 2,200 services-related jobs, and predict that more than 100,000 people will travel on the Night Tube scheme all Friday and Saturday nights.

**Table 1: Number of occupations in the UK night-time economy from 2010 to 2019**

NTE Subsector	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Food-led Total	895.6	954.2	972.6	951.0	977.7	1031.7	1106.4	1132.3	1195.8	1195.9
Food-led NTE <sup>1</sup>	592.2	630.0	641.6	622.1	639.6	675.1	723.1	739.6	780.4	780.2
Food-led NTCE <sup>2</sup>	88.8	94.5	96.2	93.3	95.9	101.3	108.5	110.9	117.1	117.0
Drink-led Total	533.7	497.0	484.6	485.4	511.3	520.6	537.6	546.7	517.8	526.7
Drink-led NTE	438.0	407.4	397.1	396.8	417.2	425.2	438.9	446.3	421.8	428.7
Drink-led NTCE	110.5	100.7	97.6	94.0	95.6	99.1	101.4	102.9	94.0	94.1
Culture & Arts Total	178.8	172.0	179.8	168.5	178.8	173.7	184.4	175.5	179.7	198.5
Culture & Arts NTE	56.9	58.3	62.6	60.3	65.5	63.6	68.0	67.0	68.8	76.8
Culture & Arts NTCE	56.9	58.3	62.6	60.3	65.5	63.6	68.0	67.0	68.8	76.8

1 <https://www.rtpi.org.uk/briefing-room/rtpi-blog/planning-day-and-night-why-the-night-time-economy-matters/>

2 NTE: Night Time Economy

3 NTCE: Night Time Cultural Economy

Bingo / Casinos / Betting Total	100.2	971	98.7	96.5	93.2	92.6	92.6	92.2	91.0	85.1
Bingo / Casinos / Betting NTE	25.1	24.3	24.7	24.1	23.3	23.2	23.2	23.1	22.8	21.3
Bingo / Casinos / Betting NTCE	25.1	24.3	24.7	24.1	23.3	23.2	23.2	23.1	22.8	21.3
Sports and Fitness Total	344.1	344.3	338.5	349.3	360.7	394.7	394.7	402.6	380.9	389.3
Sports and Fitness NTE	189.3	189.4	186.2	192.1	198.4	217.1	217.1	221.4	209.5	214.1
Sports and Fitness NTCE	37.9	37.9	37.2	38.4	39.7	43.4	43.4	44.3	41.9	42.8
Amusement and recreation Total	60.2	52.8	60.2	71.7	56.9	67.9	67.9	83.8	83.5	68.7
Amusement and recreation NTE	30.1	26.4	30.1	35.9	28.5	34.0	34.0	41.9	41.8	34.4
Amusement and recreation NTCE	30.1	26.4	30.1	35.9	28.5	34.0	34.0	41.9	41.8	34.4
Accommodation Total	347.7	385.3	378.1	386.0	392.8	428.4	428.4	412.6	417.6	456.1
Accommodation NTE	298.9	332.5	326.0	332.8	337.5	367.8	353.9	353.9	357.6	390.3
Accommodation NTCE	29.9	33.2	32.6	33.3	33.7	34.6	36.8	35.4	35.8	39.0

Source: Theo Report of the Night Time Industries Association [10]

According to the “Culture & the Night-Time Economy Supplementary Planning Guidance (SPG)”<sup>1</sup> released in November 2017, the night economy brings gives the UK 66 billion pounds a year, contributing 6% of GDP to the UK economy. The night economy brings enormous profits to the UK, the total value added (GVA) of the night economy is 40.1 billion pounds, providing nearly 1.26 million jobs for workers. The report “London at night: the evidence base for a 24-hour city”<sup>2</sup> of GLA economics publications published in November 2018 clearly shows London’s economy by night between 6 pm and 6 am. London is the city that never sleeps, all the staff of the offices, hospitals; entertainment areas keep the city open 24/7. The table below (Table 1) shows that the demand for jobs in many occupations in the UK in the night-time economy is huge and has increased over the years.

If calculated on a national scale, the number of jobs in the UK night economy tends to increase from 2010 to 2019 (Table 2)

**Table 2: Employment in the UK night economy**

Unit: thousand people

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Total employment in the night economy	1630.5	1668.1	1668.2	1664.1	1709.9	1766.8	1871.9	1893.1	1902.6	1945.6

Source: Theo Report of the Night Time Industries Association [10]

In 2019 there were 1.945 million jobs in the night-time economy. This was a 19.3% increase between 2010 and 2019. This is 6.0% of all jobs in the UK.

In order to promote and strengthen the management of nighttime economic activities, the UK has constantly been improving the law over the past 20 years. Legislative developments in the

1 [https://www.london.gov.uk/sites/default/files/culture\\_and\\_night-time\\_economy\\_spg\\_final.pdf](https://www.london.gov.uk/sites/default/files/culture_and_night-time_economy_spg_final.pdf)

2 <https://www.london.gov.uk/sites/default/files/london-at-night-full-final.pdf>



past decade have substantially changed local and national powers available to tackle anti-social behaviour and crime and disorder associated with the night time economy.

+ The Licensing Act 2003 (“the 2003 Act”) repealed previous licensing laws and moved responsibility for licensing from magistrates to local authorities. It sought to address the links between badly managed licensed premises and anti-social behaviour; and between standard closing hours, street congestion and alcohol fuelled violence. The 2003 Act provides that the licensing regime is enforced by licensing authorities. In England a licensing authority is “the council of a county or county borough”; British local authorities are therefore responsible for the implementation of the licensing legislation in their area.

+ The Anti-Social Behaviour, Crime and Policing Act 2014 provided new powers for the police and local agencies. This allows the police or local authority to quickly close premises which are being used, or likely to be used, to commit nuisance or disorder.

#### **4.2.2. Night-time economy in China**

A contemporary night-time economy began to emerge in China in 1979 (Zhu 2006a), but its growth remained slow in the 1980s and early 1990s. In the second half of the 1990s, this night-time economy expanded exponentially as urban Chinese began to earnestly pursue cultural consumption and the young enthusiastically embraced rave party–inspired club culture, the globally dominant nightlife culture at the time. Since the late 2000s, the Chinese night-time economy has been commercially successful, culturally vibrant, and conspicuously present all over the country.

According to calculations, by the end of 2020, the size of the night economy market in China is estimated at 2.4 trillion USD, mainly based on the strong growth of shopping services, online entertainment, and digital content. Electronic and communication services have helped to connect the traditional night economy (direct trade) and the online night economy (indirect trade) in this country.

The Chinese night-time economy may be less massive than those in the developed West, but its social, economic, and political significance are not any less remarkable given its rapid development in a contracted period and its embeddedness in a paternalistic, sociopolitical context that has been very hostile to nightlife. This section explicates how the night-time economy is theoretically intriguing for and practically relevant to China’s polity, economy, and society.

China is urgently attempting to develop its cultural industries and cultural market in order to upgrade its economy in the twenty-first century. It is increasingly understood by the state that the cultural industries offer numerous practical advantages- including precisely those needed in the present stage of Chinese economic development. These advantages are industrial restructuring, reduction of environmental pollution, employment of a large number of workers, urban regeneration and development, facilitation of domestic consumption, and provision of local tax revenues. The nightlife industries potentially offer all these advantages, even though they are not formally designated as creative industries by the authoritative Department for Culture, Media, and Sport of the United Kingdom. The night-time economy is at once a high value–added cultural service, a consumption outlet of local creative products, a provider of a large number of jobs, a strong generator of local taxes, a cultural clustering base that facilitates productivity of the creative class, and an infrastructural component of urban regeneration and tourism. Understanding the night-time economy will help China fine-tune and enrich its long-term strategic economic-development plans.

In 2019, China's Ministry of Commerce issued a document emphasizing that the "night-time economy" is an integral part of the urban economy. Its prosperity is an important milestone for the city's remarkable development and the urban economy expansion. At the end of August 2019, the Chinese Government announced 20 measures to promote consumption, including the "Nocturnal business and market" measure. This is the first time the Chinese Government has initiated efforts to promote the development of the night economy.

**Table 3: Policy measures related to the night-time economy of some Chinese cities**

No.	Policy measures	Date issued	City
1	Implementation comments related to the enhancement of the night-time economy in the city area	05.2004	Qingdao
2	Hangzhou night-time development report	06.2006	Hangzhou
4	Opinion of the Government of Chongqing City regarding the development of the night-time economy	06.2014	Chongqing
5	Directives related to the development of lighting in the night-time economy	08.2014	Ningbo
6	Implementation opinion regarding the promotion of night-time economic development	11.2017	Nanjing
7	Implementation opinion of the city government office regarding the promotion of night economic development	03.2018	Nanjing
8	Implementation plan related to promoting night tourism	04.2018	Xi'an
9	Persevering in the development of special culinary items "late-night restaurants."	05.2018	Beijing
7	Guidance regarding Shanghai's promotion of night-time economic development	04.2019	Shanghai
8	Beijing City's policy regarding making the night-time economy thrive to promote consumption growth	07.2019	Beijing
9	Guangzhou city with an implementation plan to encourage night-time economic development	08.2019	Guangzhou

*Source: Author's compilation*

In China, night-time economic activities are often related to information technology, such as watching movies, listening to music, reading online stores, e-commerce, video games and a series of promotions for evening shopping. dark...

According to Alibaba's report (July 2019), internet users' nightly shopping on the Taobao e-commerce site contributed more than 36% of the total value of all-day spending on this website. The intelligent supply chain based on industry 4.0 has helped to create new distinctions in night economic activities in China compared to other countries in the world...

*Policies for managing the night economy in China:*

- Establish a coordination mechanism to coordinate the economy at night: elect "lighters" for the "night economy" at three levels of neighbourhoods (perfume, town), district and city by the leadership of the governing body management at all levels of government and business associations, in charge of managing and coordinating the development of the "night-time economy". Establish chambers of commerce and other social organizations in "night capitals" to promote and manage economic activities in these areas.

- Optimizing night-time public transport services: increasing vehicles, increasing the number of time-limited parking spaces.
- Lighting up the consumer market at night: supporting “night capital” areas, improving facilities, lighting equipment, toilets, public wifi and 5G-enabled devices.
- Plan to “light up the capital at night” to promote consumption activities: organize and deploy activities such as late-night food festivals, light festivals, and cultural shows.
- Creating an “IP culture” (intellectual property culture) night consumption: organize cultural and entertainment activities such as watching movies, listening to music, and reading books. Encourage museums and galleries to art display extended opening hours; organize cultural activities and traditional festivals. A fare subsidy will be given for shows with less than 3000 seats.
- Development of night tourist attractions: extending the opening time of grade 4A scenic spots from 1 to 2 hours. Support the launch of healthy nightlife entertainment stores. Organize night tour activities at Summer Palace, Olympic Forest Park, Chaoyang Park and other places.
- New consumer lifestyle – nightly fitness activities: supporting fitness businesses open until 10 p.m., organizing major domestic and international sporting events such as the FIBA basketball tournament 2019, China men’s basketball tournament... Build sports facilities and venues to meet people’s needs.
- Launch of 10 nightlife food streets: grant funding from 100,000 to 5,000,000 yuan for shops and food streets operating at night.
- Build 16 night markets: organize night market activities on culture, tourism, and cuisine in summer, weekends or holidays.
- Encourage business activities that last at night: support businesses to build 24-hour convenience stores; encourage shopping centres to extend working hours and carry out holiday promotions.
- Planning the “Beijing Consumer Guide - the “night capital””: Coordinate business information, tourism, culture, sports, entertainment, large-scale events and transportation information in the living quarters, commercial areas and iconic sites of the “night capital”: and compiled the “Beijing Night Consumption Guide - the “night capital””
- Strengthening prevention and control of economic risks at night: developing preventive measures to ensure social safety “night economy”; each county will establish a mechanism to assess the risk of night economic activities.
- Increased funding support: Support to improve commercial facilities in the business district and promote consumer activities.

### **4.3. The potential for night-time economic development in Vietnam and lessons learned from the studied countries**

#### **4.3.1. Potential for developing night-time economy in Vietnam**

According to a survey of foreign experts in Vietnam, revenue from tourism products and services during the day accounts for only 30%, while the remaining 70% is in the night time frame.

When the sun goes down in cities like Hanoi, Da Nang, and Ho Chi Minh, it is also the time when the pedestrian streets are lit up with lights and music, after drinking beer, tea or coffee, tourists can walk to the night markets to shop and discover food at night; Then to the pedestrian streets, tourists can immerse themselves in the local culture, watch an outdoor art show or in the theatres, enjoy the nightlife on the streets. These activities are considered the best example of the operating model of the night economy - where business activities only really explode after sunset.

In fact, popular types of night economy have been deployed in several big cities such as Hanoi, Ho Chi Minh City, and Da Nang, shown in the model of night markets, nightlife streets, and 24-hour convenience stores, pedestrian streets or typical entertainment streets such as Ta Hien (Hanoi) or Bui Vien (Ho Chi Minh City) and Ba Na Hills (Da Nang). In addition to making a tremendous economic contribution, the night economy can create significant changes for the domestic service and tourism industries, creating new impetus for economic recovery, especially after the recession caused by the impact of the current COVID-19 pandemic.

Statistics from the Ministry of Planning and Investment show that the country currently has about 20-night markets for tourism and about 1,000 out of 2,300 convenience stores operating 24 hours a day, mainly in Hanoi and Ho Chi Minh City. Ho Chi Minh. The Circle K store system was present in Vietnam in 2008 and, since 2013, has operated under the 24/7 model (To Ha, 2021).

Overall, the night-time economy creates a non-stop spinning wheel for the economy to operate at maximum speed. In addition to making a tremendous economic contribution, the night-time economy creates excellent changes for the domestic service and tourism industries, creating a new impetus for economic recovery, especially after the recession caused by the influence of the current Covid-19 pandemic. The night-time economy's advantage is attracting tourists and creating accents and colours for each locality and region. Therefore, the more diversified and rich the night-time economy is, the more likely it is to retain tourists. From there, creating a favourable environment for the operation of activities and accompanying services, attracting investment in various types of tourism "24h city".

The night-time economy also creates new jobs for Vietnamese workers and, at the same time, contributes to maintaining social stability. Because the rich and diverse services of the night economy always require a large number of workers. The demand for human resources is not only limited to waiters, chefs, restaurant servers, but also a large number of transport workers, drivers, engineers, security guards, managers, and sanitation workers, technicians, IT support specialists, performing artists, event workers and other professions.

Culture and entertainment always develop in parallel with the night-time economy. Therefore, the night economy also creates a huge boost for the development of this market, such as music, events, street festivals and other forms of entertainment and communication. The more vibrant the environment and actual demand will create a driving force for the entertainment industry to develop and contribute more to the social culture of Vietnam.

However, at present, Vietnam's night-time economy is still poor and monotonous and has not developed a prominent brand to attract domestic and foreign tourists. Night-time economic activities have only been exploited on a small scale, individually, scattered in some areas, and have not yet

made a mark. This is one of the reasons why tourism revenue and spending levels of international visitors to Vietnam are low compared to other markets. For example, in Hoan Kiem district (Hanoi), in 2016, the revenue of business households open until 2 am increased by more than 50%, but in 2018 only increased by about 30%, causing the number of households to register Night-time activity is decreasing. Tourists, especially international visitors, feel unattractive because coming to Vietnam, there are not many options to have fun and relax at night (To Ha, 2021).

Moreover, the development of the night economy can unintentionally become a favourable environment to increase crimes and lead to common social evils, such as prostitution, drugs, and gambling difficult for social administrators. For example, the consumption of alcoholic beverages tends to increase with the development of the night economy. Traffic safety and public disorder violations are also likely to occur as a consequence of alcohol abuse and the use of alcoholic beverages. These phenomena pose many potential risks, complicate the situation of security and order and affect public health.

Economic activities at night also create noise, light and waste pollution, fire prevention and fighting risks, and illegal occupation of public space for business activities. In addition, there is also pressure on providing essential infrastructure systems, such as waste treatment, electricity and water supply monitoring issues of hygiene, food safety, quality control of goods, the origin of goods, and prices of goods.

#### **4.3.2. Lessons learned from research countries can be applied to Vietnam**

On the basis of studying the current situation of development and policy of night economic management in the UK and China and analyzing the potential for night economic development in Vietnam, some lessons learned to apply to the specific conditions of Vietnam in the coming time can be proposed as follows:

*Building legal corridors favourable for night-time economic activities, ensuring economic development and well-controlling security and order issues*

There should be specific regulations on the area of operation; priority product development at night; operating time; operating license; operating standards of enterprises, and individual business households for all types of businesses in bars, restaurants, gambling and entertainment establishments and other fields of cultural and musical entertainment in order to develop different types of businesses above in an appropriate way, avoid being deviated and violating the provisions of the law.

*Localities at all levels need to be clearly decentralized and encouraged to implement specific night-time economic activities management, promote creativity, and preserve local identities.*

It is necessary to synchronize and plan in a long-term view the development and management policies of the local night economy through a group of policies to strengthen the transport system, infrastructure investment, and management model, financial support policy, implementation policy, management, licensing and human resource development policy.

Provinces and cities need to study and build a model of night-time economic development suitable to the advantages and practical conditions in each locality, especially in line with the ability to mobilize and attract investment in each locality's specific location. Night economic

development programs/plans need to carefully calculate local influences and impacts (both positive and negative) based on demand and maximum exploitation strengths, as well as requirements and ability to allocate resources for management and local support.

Localities should invest in infrastructure and quality of human resources in order to prepare the best development conditions for businesses dealing in cultural and entertainment services at night in the locality. At the same time, it is advisable to attract and select reputable and experienced enterprises to develop healthy night-time economic activities in the locality. Activities imbued with local culture should be developed to encourage customers to experience more and spend more. In particular, policies to develop the night economy need to be flexibly and creatively combined with economic development policies based on the digital economy, 4.0 technology and sharing economy.

*The model of night-time economic management in establishing a Management Council or appointing the post of Night Mayor should be promoted in localities.*

Most countries that have developed night-time economies have decentralized the management of this economic activity to the local government levels (city level, district level). Local governments can appoint critical positions to manage night economic activities by implementing this policy. It can be a dedicated individual such as the “Nighttime Mayor” in the UK or a multi-stakeholder assembly of the night economy like in China. This management position is entirely separate from the position of local government manager for daytime economic activities. Basically, the organizational model of the management apparatus in these countries involves close participation and consultation from the local community (from service providers, resident associations, managers, and security assurance).

*Support instead of prohibition due to difficulty managing should do an excellent job of control.*

During the day people go to work, at night is the time when people have very high consumption demand, not only tourists but also ordinary people, especially people living in urban areas. Therefore, promoting entertainment activities, shopping and using other services at night will obviously stimulate consumer demand. The stimulation of night-time consumption will attract many investors to the entertainment and shopping establishments. From there, with increasing resources for tourism, travel companies will have many options to extend the stay for tourists, longer tours. If tourists stay longer, they will spend more, and the important thing is that Vietnam’s tourism industry pulls foreign tourists back.

However, our country must also have a full legal framework for night economic development. Accordingly, when developing any service activity, time, area, participants in those fields must meet the standards of noise, light and be far away from residential areas, hospitals, schools, and communities while increasing the state management to avoid variations and arising evils. The situation of night-time economic development in other countries shows that there are variations, but they are also quite well controlled. Therefore, regulatory agencies should not be prohibitive when finding it difficult to manage night services.

*Night-time economic management needs to be planned for pilot development in certain areas to evaluate the feasibility, effectiveness, and socio-economic impacts before mass development across the country.*

In particular, in the context of the night-time economy in Vietnam facing fierce competition from regional markets such as Thailand and Singapore in attracting international tourists to stay and spend, local policymakers need to have a clear night-time economic development plan and apply it in a pilot phase, and study it precisely with a long-term vision to ensure the best foundation for political safety security and social order and safety. Ideally, night economic activities will be piloted in some planned areas, if practical, the model will be replicated.

Solutions need to be synchronous, both on the basis of legal regulations as well as practical management in the area, corresponding to each population, lifestyle and living characteristics in that locality. Developing the night economy is undoubtedly a strategic direction, but it also requires better implementation and management from relevant agencies.

#### 4. CONCLUSION

Developing the night-time economy is inevitable, in line with international trends, and simultaneously brings new opportunities and impetus to the country's economy. Vietnam has much potential for developing night-time economic activities. However, to realise the night-time economy's development, Vietnam will have to go through a "thorny road" with challenges ahead, from changing awareness to perfecting the law and increasing efficiency results of inspection, examination and supervision of night economic activities. As a latecomer, Vietnam can refer to and learn from the experience of night-time economic development policies of other countries in the world, thereby applying it creatively, selectively and in accordance with the actual conditions of Vietnam to build an effective and successful night-time economic development model.

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# IMPROVE REVENUES MANAGEMENT AT LOCAL PUBLIC UNIVERSITIES IN VIETNAM

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**Abstract:** *A local public university is a school directly under the local government and under the state management of the Ministry of Education and Training, invested in and built by the local government, and funded by the local government to meet the human resource needs of the university. place, serving the economic and social development of the locality and neighbouring areas. Over the years, local public universities have played an essential role in the socio-economic development of localities through the provision of quality human resources, scientific research, and technology transfer in the locality, and at the same time meet the learning needs of the local people. However, with a low starting point, local universities are currently facing many difficulties such as difficulties in enrollment, improving the qualifications of the teaching staff, and problems with financial resources, especially in the context of universities implementing financial autonomy. This requires local public universities to constantly expand and strengthen revenue management to compete with other universities in the region and the whole country.*

**Keywords:** *local public university, revenue sources, revenue management.*

## 1. INTRODUCTION

The current university autonomy in Vietnam is considered an inevitable development trend, a necessary and sufficient condition for universities to exist and develop in the trend of competition and integration. The Government has issued many documents regulating autonomy for universities, including applying a financial autonomy mechanism, thereby gradually reducing the state budget allocated to universities. The application of the financial autonomy mechanism helps schools to be more self-sufficient in financial revenue and expenditure, improving the quality of training and scientific research, investing in upgrading facilities, and increasing incomes for employees. In which, 23 schools have piloted the autonomy mechanism under Resolution 77/NQ-CP of the Government, which has achieved many results, the schools have diversified their revenue sources to invest in training activities. Attracting qualified lecturers to participate in research and teaching, increasing income for employees, increasing support level for students, and many schools have self-financed all operating expenses regularly and spend on investment, not receiving funding from the state budget.

However, local public universities are currently facing many difficulties such as difficulty in enrollment, difficulty in improving the quality of lecturers, and difficulty in renovating the way they operate motion. In addition, although the financial autonomy mechanism has been gradually applied, the financial resources of local public universities are still limited, the level of financial

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autonomy is not high, and they are not proactive in revenue sources. Financial sources are still not diversified, relying mainly on the state budget and revenue from tuition and fees, revenue from service activities, scientific research and technology transfer. This requires researching solutions to expand and strengthen revenue management for local public universities in Vietnam.

## 2. LITERRATURE REVIEW

In the world, there are many research works on financial management and revenue management of universities. Research by Bryan Cheung (2008) suggests that universities can generate large revenues from external contracts. This revenue stream is controlled as the corporate model to reaffirm the unit cost and establish a public profit. According to Jamil Salmi and Hauptman (2006), to have a lot of money, increasing tuition is the best option to meet the needs of the school. The most important issue is transparency in the use of financial resources to ensure the quality of education. Tony Holloway (2006) argues that regulators when considering financial management issues in universities cannot be rigid and adhere to traditional financial and process procedures, but must be flexible. continuously adjusted by each development period of each country, with special attention given to the behavioural aspect of the user of that financial resource. He argues that the need for success in financial management in public universities is the adoption of a financial management model in business because financial activities in this area are very disciplined and transparent towards achieving profit.

In Vietnam, there are also many studies on financial autonomy and financial management of public universities. Vu Thi Thanh Thuy (2012) in the thesis “Financial management of public universities in Vietnam” analyzed the factors affecting the financial management of public universities, and provided an automatic scale of financial management for universities, on that basis, proposes some solutions to improve the efficiency of financial management for public universities. Nguyen Truong Giang (2014) pointed out the limitations of the current financial autonomy mechanism such as low tuition fees, insufficient recurrent expenditure, average state budget allocation, not associated with training needs, the autonomy mechanism has many shortcomings, the policy of free tuition for pedagogical students is slow to adjust; On that basis, the author proposes several solutions such as gradually calculating training costs in tuition fees, renewing the mechanism for allocating resources from the state budget, renewing the mechanism to support training costs. for learners. Tran Quang Hung (2016) in the thesis “Vietnam’s university tuition policy” has synthesized, analyzed, and evaluated the tuition policy of public universities in Vietnam, pointing out the long-term view of the Government. The country should remove the ceiling on tuition fees, if the tuition ceiling is applied, schools can collect more than the ceiling and pay taxes on this revenue. At the same time, the tuition fees must be classified according to different types and groups of training disciplines and there must be many policies to support tuition and loans for students. Dam Dac Tien (2017) in the thesis “Improving the financial management mechanism of local universities in Vietnam” systematized the theoretical issues of financial management in public universities. general and local universities in particular; assess the current situation of financial management in local universities in Vietnam and propose some solutions to improve the financial management mechanism at local universities in the coming time. Nguyen Thi Mai Lan (2019) in the thesis “Financial management

at universities under the Ministry of Industry and Trade in the condition of autonomy”, the author analyzed the main contents of financial management at universities. state universities, analyzing the current situation of financial management at public universities under the Ministry of Industry and Trade, pointing out the achieved results and the limitations still encountered. From there, propose some solutions to improve financial management at public universities under the Ministry of Industry and Trade in the coming time. Tran Quoc Hoan et al. (2020) also studied the average revenue and training costs of local universities in Vietnam. Research shows that the revenue of local universities in Vietnam is still limited and depends heavily on the state budget. Other sources of revenue account for a small proportion. The author also makes some recommendations to increase revenue for local universities such as increasing revenue from grants, increasing revenue from services, and revenue from scientific research.

### **3. RESEARCH METHODS**

Starting from an overview of domestic and foreign studies related to the research topic, the author collects, analyzes and evaluates relevant actual data. The article studies the data of 5 local universities including Hung Vuong University, Hai Phong University, Hong Duc University, Quang Binh University and Tra Vinh University, thereby generalizing the local public university system in Vietnam. In particular, an in-depth analysis of the current situation of revenue management of Hong Duc University.

About the method of information collection: The data and documents are collected through statistics, studying the State’s legal documents related to financial management, to the financial autonomy mechanism of the institutions. public service units, local public universities; documents, reports related to the financial situation, financial management status, internal spending regulations, financial statements of 5 local universities, topics, schemes, books, magazines and related websites.

About the method of synthesizing and analyzing information: Collecting data from reports and documents of public universities in Vietnam, documents, information in the press and the internet, and synthesizing information based on the methods of synthesis: statistical grouping, statistical graphs, statistical tables. The article uses general statistical methods, absolute numerical comparison methods and relative numerical comparison methods, statistics, collection methods, data analysis, and evaluation of diagrams and forms.

### **4. RESEARCH RESULTS**

#### **\* Develop a revenue management plan**

Revenue management in public universities in the process of planning revenue sources, deciding policies related to the collection process, organizing implementation and controlling the implementation process to help universities ensure compliance with revenue management activities, effectively mobilizing the financial resources of the school. The targets and plans on revenue sources are developed by schools under the guidance of the local Departments of Finance and the Ministry of Finance, based on data and documents such as approved enrollment quotas and schooling levels fees in the academic year, the number of faculty members, the number of students and the research projects carried out.

### \* Organization of revenue management

To implement revenue management, local public universities have developed a system of policies, procedures, and regulations on revenue management for all departments and units in the university to implement, especially the Department of Revenue. Planning – Finance. In addition to the regulations of the State and local authorities on the collection regime, the school promulgates documents concretizing the above policies for implementation such as Financial Regulations, and Regulations on the internal expenditure of the school. Activities on revenue management must ensure publicity, transparency and specific accountability.

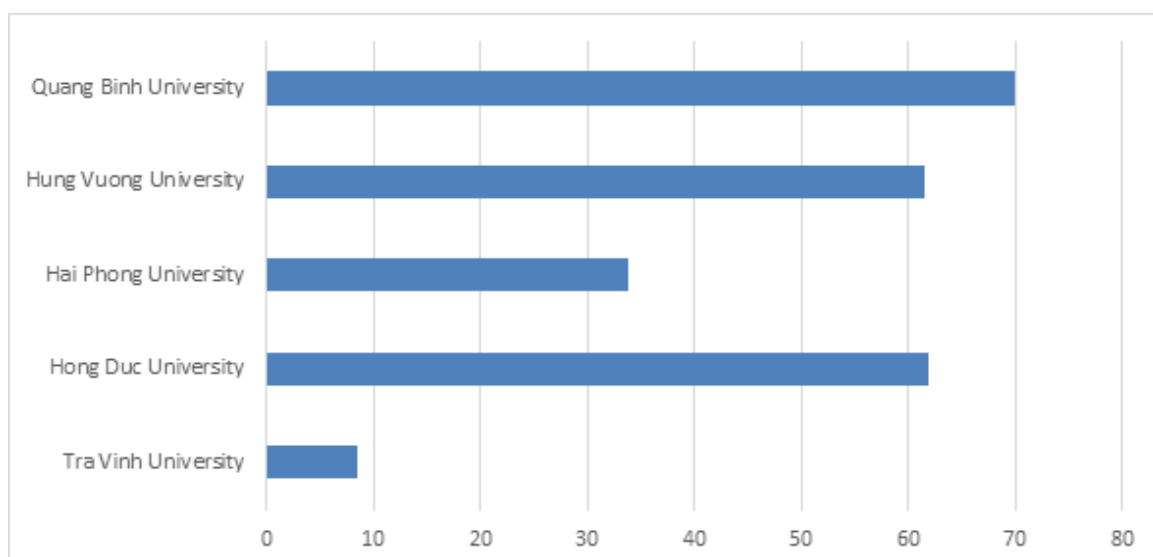
The documents of the school specify the sources of the school's revenues and stipulate the level of each revenue collection such as tuition fees, fees, revenues from scientific and technological activities... Competence to decide on revenues, objects and levels of revenue, and responsibilities in the collection of funds are clearly defined. The process of organizing the collection and use of invoices and vouchers, monitoring and accounting books are all carried out by the process and provisions of the law, the collection process is open to learners and related parties to perform presently. The mechanism for checking and monitoring revenue sources is implemented regularly and timely, ensuring that the revenue management of local public universities is done openly, transparently, appropriately and by the provisions of law.

### \* Current status of revenue management

The local public universities currently have the main sources of revenue including revenue from the state budget; non-business revenue sources include tuition and fees and other non-business revenues; revenue from services, scientific research and other sources of income. In the period 2017-2021, Tra Vinh University has a large and stable source of income, an average of more than 430 billion VND per year. Hong Duc University has an average revenue of more than 150 billion per year in the period 2017-2021. Quang Binh University is a low-income university, reaching an average of VND 50 billion per year in the period 2017-2021.

**Figure 1: Revenue of some local public universities in the period 2017-2021**

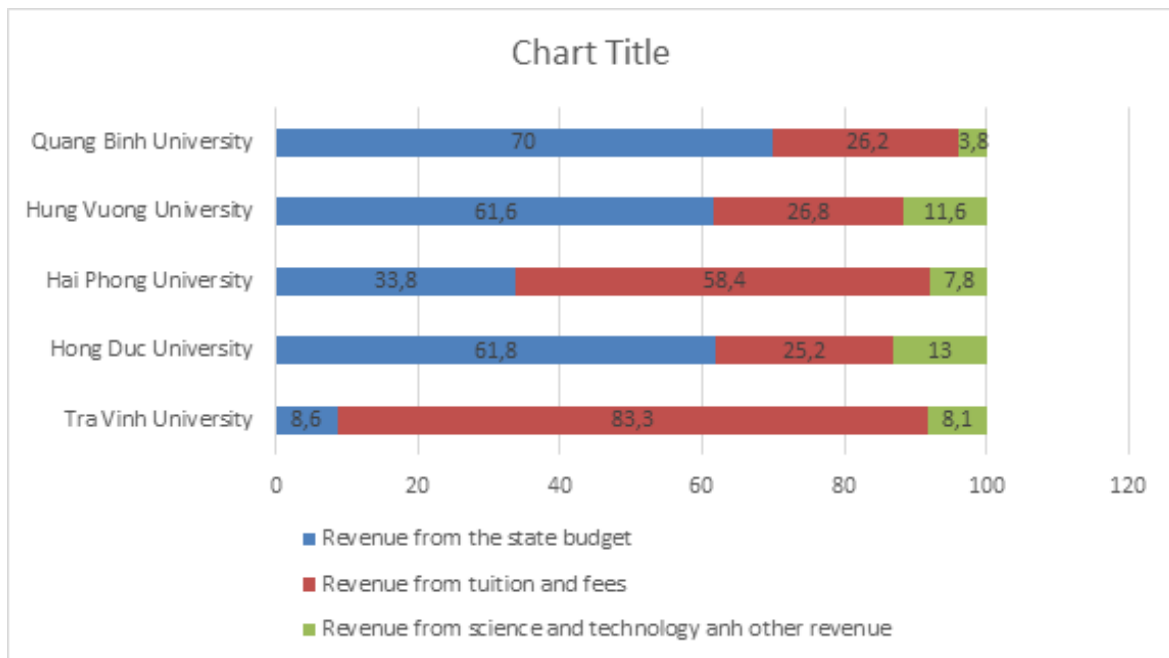
(Unit: billion VND)



(Source: Collected based on reports of universities)

Regarding the structure of revenue sources, revenue from the state budget and revenue from tuition and fees are still the two main sources of revenue for schools. The proportion of budget revenue in some universities in the period 2017-2021 accounts for a high proportion, such as Quang Binh University accounting for 70%, Hong Duc University, Hung Vuong University over 60%, and Hai Phong University accounted for 33,8% and Tra Vinh University only accounted for 8,6%.

**Figure 2: Proportion of revenue sources of some local public universities in the period 2017-2021 (Unit: %)**



(Source: Collected based on reports of universities)

Revenue from tuition and fees accounts for a high proportion for Tra Vinh University over 80% and Hai Phong University over 58%. For Quang Binh University, Hong Duc University and Hung Vuong University, revenue from tuition and fees accounts for an average of 25% of total revenue. Revenue from scientific research, technology transfer and other sources of revenue for local schools remained low in the period from 2017 to 2021, accounting for only 10% of the total revenue of the universities.

In the current state of autonomy, the revenue from the state budget allocated to local schools tends to decrease, while to increase tuition and fees, schools are forced by the fee ceiling regulation as well as the regulations from the local government forces local universities to have solutions to increase revenue from scientific research, technology transfer and other revenue to ensure the school's operations. For Hong Duc University, the revenue from the state budget allocated to the university gradually decreases according to the degree of autonomy from year to year, on average in the period 2017-2021, the revenue from the state budget accounted for 61,3% of the total revenue of the university. The school's career revenue for the period 2017-2021 tends to increase gradually because the school applies an increased tuition rate according to the schedule of each school year as prescribed in Decree 86/2015/ND-CP dated October 2, 2015. In addition, the university has actively exploited other revenue sources such as service revenues, scientific research, technology transfer...

**Table 1: Structure of public service delivery revenue of Hong Duc University period 2017-2021  
(Unit: million VND)**

FUNDING	2017		2018		2019		2020		2021	
	Amount of money	Ratio (%)	Amount of money	Ratio (%)	Amount of money	Ratio (%)	Amount of money	Ratio (%)	Amount of money	Ratio (%)
1. Tuition and Fees	32.879	82,37	38.682	79,06	42.813	81,3	44.968	82,42	81.567	92,27
- Formal study	16.156	40,47	18.899	38,63	21,684	41,18	29.348	53,79	41.392	46,83
- Postgraduate tuition	5.708	14,3	5.566	11,38	6.510	12,36	6.146	11,26	7.586	8,58
- Non-formal tuition fees	9.667	24,21	12.790	26,14	13.029	24,74	7.996	14,66	31.113	35,20
- Collect enrollment fee	1.348	3,39	1.427	2,92	1.590	3,02	1.478	2,71	1.476	1,67
2. Revenue from science and technology and other revenue	7.036	17,63	10.641	20,94	9.846,4	18,7	9.582	17,58	6.829	7,73
<b>Total</b>	<b>39.915</b>	<b>100</b>	<b>48.924</b>	<b>100</b>	<b>52.660</b>	<b>100</b>	<b>54.560</b>	<b>100</b>	<b>88.397</b>	<b>100</b>

(Source: Collected based on reports of Hong Duc university)

The source of income accounting for the largest proportion of total non-business revenue is tuition and fees, accounting for an average of 85,5% in the period 2017-2021; revenues from scientific research and other revenues account for a low proportion of total revenue. The school's career revenue tends to increase in the 2017-2021 period due to better enrollment and financial management with sanctions for students to avoid tuition arrears.

## 5. CONCLUSIONS AND RECOMMENDATIONS

From the results of analyzing the current situation of revenue management of several local universities, with a focus on Hong Duc University, to strengthen revenue management in the coming time, the author gives some conclusions and recommendations to the schools as follows:

First, universities need to boost revenue from tuition and fees. In the condition that the state budget allocated to schools is gradually decreasing according to the autonomous route, the revenue from fees plays an increasingly important role. Schools need to have policies to attract learners to study at the school, and increase training needs according to local orders to increase the number of learners. At the same time, develop a roadmap to increase tuition fees by state regulations.

Second, increase revenue from scientific research and technology transfer. Schools need to promote cooperation with agencies and departments in the province to deploy research projects associated with the local socio-economic development to increase the school's revenue. Simultaneously with promoting research, universities need to actively commercialize products from the results of research projects.

Third, increase service revenues and funding sources. As for the service revenue, the school needs to expand the forms of joint training, short-term training, certification, canteen services, canteens, photocopying... to increase service revenue. For funding sources, it is necessary to build cooperative relationships with local businesses, relationships with former students; calling on businesses and alumni to contribute financial resources to the school to increasingly improve the training quality of the school.

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# INCREASING INVESTMENT PROMOTION ACTIVITIES TO ATTRACT FOREIGN DIRECT INVESTMENT

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**Abstract:** *After more than 30 years of renovation and opening up, Vietnam has become one of the most successful countries to attract foreign investment in the region. To achieve this result, besides activities such as perfecting institutions and policies, improving the investment environment, strengthening international cooperation, etc., investment promotion activities also play a very important role. Due to the impact of the epidemic and political conflicts, the picture of foreign investment has changed, it is necessary to have strategies in investment promotion activities so that we can achieve our goals in attracting foreign investment. this important source of capital.*

**Keywords:** *Investment promotion activities, attract, FDI, FTAs.*

## I. RESEARCH SITUATION AND METHODOLOGY

### 1. Research situation

Nowadays, there are many research projects in the world and Vietnam on foreign direct investment from different perspectives: economics, law, sociology, etc., with the aim of enhancing the attraction of this capital for economic development. However, investment promotion activities have not been researched in depth; mainly integrated in overall reports on FDI. Some studies also mention the experience in some other countries but to apply to Vietnam's conditions is still very limited or the analytical view is biased towards FDI activities and the interests of foreign investors; hence the issues of investment promotion activities in Vietnam have not been clarified. Thus, although there are many domestic and foreign studies on FDI, including FDI in Vietnam, there is still a lack of basic and systematic studies on investment promotion activities. This is the gap for research.

### 2. Research methodology

The author uses historical materialism as the foundation for this article. Besides, the article also uses specific research methods such as: comparative analysis, statistical analysis, meta-analysis (analyzing the current situation of attracting FDI and investment promotion activities in the period 2010-2022).

## II. OVERVIEW ON FOREIGN DIRECT INVESTMENT AND INVESTMENT PROMOTION ACTIVITIES

### 1. Foreign direct investment – role and trend

*a, Definition of FDI*

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Foreign Direct Investment (FDI) is a long-term investment activity, in which the capital owner directly manages and operates. OECD (2008) also defines FDI as “a form of cross-border investment performed by a resident enterprise in one economy (direct investor) with the aim of establishing a lasting interest in an enterprise (direct investment enterprise) that is resident in an economy other than that of the direct invest.” Similarly, according to UNCTAD (2012), “FDI is a long-term investment associated with the long-term interest and control of an investor in a country (foreign direct investor or parent company) into a company located in another country (foreign direct investment company or subsidiary). These two views refer to the interests and control of investors in foreign enterprises.

In 2020, Vietnam’s Investment Law defines “foreign investment” as an investor’s transfer of investment capital from Vietnam to a foreign country, using profits earned from this investment capital to carry out investment activities abroad”. Thus, this Law does not specifically refer to the concept of foreign direct investment, but only introduces the concept of investment activities. Accordingly, foreign investment includes both direct investment and indirect investment.

Thus, the above views are all in agreement: FDI is an investment form that allows investors to participate in operation activities in the receiving country, the investment purpose is profit.

In the research scope of this article, *FDI is a form of cross-border investment by a resident enterprise in one economy (foreign investors) in order to control or have significant influence on the management of a business residing in other economy. Foreign investors move resources (including tangible and intangible resources) to the host country to conduct production and business activities in order to collect long-term benefits.*

#### *b, Role of FDI for the host country*

Foreign investment plays a huge role in the socio-economic development of the host country by bringing the following benefits:

- *FDI adds capital to the economy:* FDI is not only an additional source of development investment capital, but also a more stable capital flow than other international investment flows, because FDI is based on a long-term view on the market, growth prospects, and do not create debt for the host country’s government, hence it is less inclined to change in the face of adverse circumstances.

- *FDI provides new technology for development:* It can be said that technology is a decisive factor for the growth and development of every country, and this role is even more clearly confirmed for developing countries. Therefore, enhancing technological capabilities is always one of the top priority development goals of every country. However, in order to achieve this goal, it not only requires a lot of capital, but also a certain level of development of science and technology.

- *FDI is considered as an important source for developing technological capabilities of the host country.* This role is reflected in two main aspects: the transfer of available technology from outside and the development of technological capabilities of the research facilities and application of the host country. These are important goals expected by the host country from foreign investors.

- *FDI helps develop human resources and create jobs:* Human resources development and job creation are main factors in promoting economic growth. The objective of foreign investors is to maximize profits, strengthen their position and maintain competitiveness in the world market. Therefore, they are particularly interested in taking advantage of cheap labor in host countries. The number of workers in FDI enterprises is rapidly increasing in developing countries.

- *FDI helps expand markets and promote export:* Export is an important factor of growth. By promoting exports, the comparative advantages of production factor in the host country are exploited more effectively in the international division of labor. Although developing countries has production capacity at a competitive cost, it is still difficult to penetrate international market. Hence, encouraging export-oriented foreign investment is always a special incentive in the FDI attraction policies of these countries.

*c, International and regional investment trends in the upcoming time*

- **International investment trends:** According to UNCTAD, global FDI increased by 77%, from \$929 billion in 2020 to an estimated \$1,650 billion in 2021, surpassing the level before COVID-19. In which, developed economies recorded the strongest increase in FDI capital ever, with an estimated USD 777 billion in 2021. In Europe, more than 80% of the increase in FDI was due to large changes in key economies of the region. Meanwhile, FDI inflows into the US have more than doubled due to an increase in cross-border mergers and acquisitions (M&A) activities. Developing economies, especially least developed countries (LDCs), recorded lower growth recovery. FDI inflows into developing economies increased by 30% to nearly 870 billion USD, of which East and Southeast Asia increased by 20%, Latin America and the Caribbean region recorded a recovery closed to the level before pandemic. Investment inflows into Africa also increased, but most of the countries receiving investment in this continent suggest that FDI increased moderately.

- **Investment trend in region and Vietnam:**

According to UNCTAD, FDI inflows into Asia will remain stable (8%); this region has emerged as an attractive destination for international investment during the pandemic. In the ASEAN region, although FDI inflows have declined, ASEAN's prospects are still bright. The signing of the Regional Comprehensive Economic Partnership (RCEP), which includes all ASEAN member states, China, Japan, South Korea, Australia and New Zealand, is expected to be one of the main growth drivers as the trade bloc is more integrated.

In 2021, there are 94 countries and territories invested in Vietnam. Singapore leads with a total investment of nearly 6.3 billion USD, accounting for 28.4% of total investment capital in Vietnam; Korea surpassed Japan to be ranked at second place with total investment capital of over 3.9 billion USD, accounting for 17.7%; Japan ranked third with total investment capital of 3.3 billion USD, accounting for 14.7%. Entering 2022, it is expected that Vietnam will still be a bright spot in attracting FDI when the economy has reopened, Vietnam continues to be a safe, attractive and potential investment destination for foreign investors.

## **2. Investment promotion activities**

*a, Concept of investment promotion activities.*

The concept of investment promotion is not regulated in current legal documents. The Law on Investment 2020 does not state the concept of "investment promotion". However, it can be un-

derstood that the concept of “investment promotion” is similar to the concept of “trade promotion” of the Commercial Law 2005, which is the activity of promoting and seeking opportunities to buy and sell goods and services.

Investment promotion can be understood as activities of authorities to attract economic groups, domestic and foreign enterprises, individuals to invest in their country. The result of this activity is the investment resources attracted to the country. At the same time, investment promotion is a dynamic tool and has oriental influence on the investors; it also is a form of propaganda, promotion, and marketing in order to seek and maintain investment capital.

*b, The role of investment promotion activities*

Investment promotion activities play an extremely important role in attracting foreign investment capital, it is likened to a “bridge” between investors and the host country, specifically as follows:

- *For the host country:* It helps build a good image with investors. Investment promotion activities are the good measure to build the image of a country rich in potential and always ready for attractive investment opportunities, promising to bring more profits to foreign investors.

- *For foreign investors:* Through investment promotion activities, it will help investors get a look at investment opportunities in the host country, thereby helping investors make the final decision. Investment is an activity with large capital and this capital is deposited during the investment process, capital recovery is long, so it is affected by unstable factors such as nature, society, politics and economy.

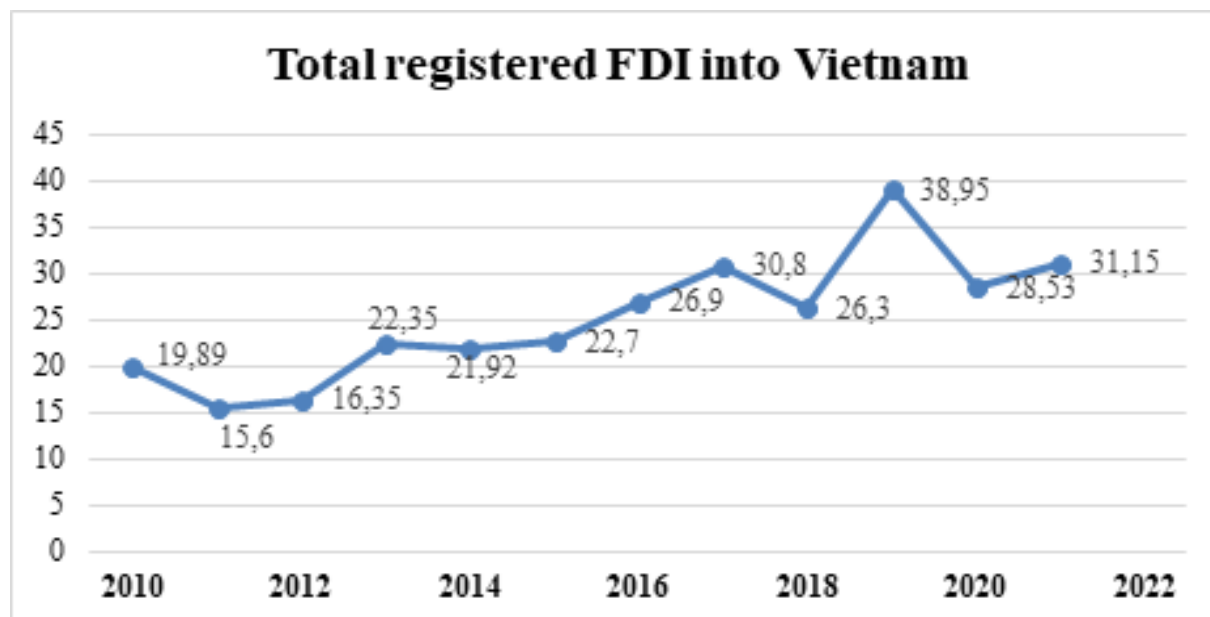
- *Investment promotion helps the host country actively select and find potential investors:* Based on the actual needs of the country, select the key industries and fields that need to attract investment, from which the host country can clearly orientate the audience that it wants to promote investment.

- *Increase competitiveness with other countries in attracting foreign investment:* Through investment promotion activities, each country can promote its advantages, thereby making the international community understand these comparative advantages. Therefore, competition for investment attraction is competition in investment promotion.

### **III. THE SITUATION OF ATTRACTING FOREIGN DIRECT INVESTMENT AND INVESTMENT PROMOTION ACTIVITIES IN RECENT YEARS**

#### **1. Situation of attracting foreign investment capital in recent years**

Viet Nam is one of the countries that is appreciated be highly attractive to foreign investors. With competitive advantages in terms of open investment environment, stable political environment, stable macroeconomic environment, abundant low-cost human resources, favorable trade location, FDI inflows into Vietnam in recent years has tended to increase, especially after Vietnam participated in bilateral and multilateral free trade agreements (FTAs).

**Figure 1: FDI inflows into Vietnam in the period 2010 – 2021***Unit: billion USD**Source: Author synthesis from Foreign Investment Department*

The period from 2010 – 2015, registered FDI capital fluctuated continuously and increased slightly from 19.89 billion USD in 2010 to 22.7 billion USD in 2015. Since 2015, total registered FDI capital into Vietnam have increased strongly and continuously, with the total investment capital into Vietnam in 2016 was 26.9 billion USD, by 2019 this figure increased to 38.95 billion USD. In 2020, due to the influences of the Covid-19 pandemic, the global economy was seriously affected, so registered foreign investment capital into Vietnam also decreased, reaching only 28.53 billion USD, down 25% compared to 2019. Entering 2021, thanks to the timely intervention from Government and authorities, issued many solutions and policies to remove difficulties and obstacles for enterprises as well as regulations and guidelines on adapting to the new situation of the Covid-19 pandemic. FDI capital has had a strong growth again, reaching 31.15 billion USD, up 9.2% compared to 2020.

**Table 1: Amount of capital and FDI projects into Vietnam in the period 2010 – 2021**

Criteria	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>Total registered FDI (billion USD)</b>	19,89	15,6	16,35	23,35	21,92	22,7	26,9	30,8	26,3	38,95	28,53	31,15
<b>Realized FDI (billion USD)</b>	11	11	10,46	11,5	12,5	14,5	15,8	17,5	19,1	20,38	19,98	19,74
<b>Number of new registered projects</b>	1237	1186	1287	1530	1843	2013	2613	2741	3147	3883	2523	1738

*Source: Author synthesis from Foreign Investment Department*

Not only did the registered capital increase, but realized FDI capital also increased higher in the period 2010 – 2015, from 11 billion USD to 14.5 billion USD. The period 2015 – 2021 witnessed a strong growth in the amount of implemented FDI capital, from 15.8 in 2016 to 19.74 in 2021, corresponding to an increase of nearly 25%; the number of new registered investment projects increased from 1,843 projects in 2015 to 3,883 projects in 2019.

About the number of new registered project, in the period 2010 – 2015, there was a clear growth over the years. From 1,237 projects in 2010 has increased to 2,013 in 2015. However, this growth has been stagnant in the period 2016 – 2021, but considering the average size of each project can explain why there has been a decrease in the number of new registered FDI projects, showing that Vietnam's policy of attracting FDI has changed from quantity to quality of projects, which is consistent when our Vietnam is joining a series of new generation FTAs.

## 2. Situation of investment promotion activities in recent years

Along with active activities to improve the investment environment, investment promotion activities have also contributed significantly to the progress in attracting foreign direct investment in recent years. This result is first of all thanks to positive innovations in the content and methods of implementing investment promotion. We have proactive, effective plans and programs.

### *a, The achieved results:*

- **Currently, Vietnam has established number of investment promotion organizations in the provinces and cities of the country:** The Ministry of Planning and Investment has established the Northern Investment Promotion Center, the Central and Southern Investment Promotion Center. Up to now, many localities have had investment promotion centers directly under the Department of Planning and Investment, or directly under the People's Committees of provinces and cities. Through investment promotion centers, investors will be more proactive in finding information about the locality they intend to invest in, speeding up the process of completing investment procedures quickly.

### - **Vietnam has joined international economic links:**

Looking back at the 15-year journey of being admitted as a member of the World Trade Organization (WTO) until now (November 7, 2006 - November 7, 2021), Vietnam has made a long step in the process of international economic integration. With 17 free trade agreements (FTAs) that have been negotiated; in which, there are 15 signed and effective free trade agreements and 2 free trade agreements under negotiation, which have turned Vietnam into an economy with an openness of up to 200% of gross domestic product (GDP). Prominent among them are two new-generation free trade agreements that promise to attract a lot of good quality FDI capital and expand the market for Vietnamese goods. Especially, the integration process is also effectively exploited, linking export growth with effective control of import activities, helping the trade balance to shift from trade deficit to trade surplus.

### - **Build a list of calling for investment:**

Recently, the Prime Minister issued Decision 1831/QĐ-TTg dated November 1, 2021 on the National List of projects calling for foreign investment in the period 2021-2025. Accordingly, the National List of projects calling for foreign investment in the period 2021-2025 includes 157

projects in 9 fields: Traffic infrastructure; infrastructure of industrial zones and economic zones; energy infrastructure; information technology infrastructure; waste and waste water treatment systems; education and health infrastructure; cultural, sports and tourism infrastructure; agriculture, forestry and fishery industries; manufacturing and service sectors.

**- Establishing a working group to promote foreign investment cooperation:**

In Decision No. 850/QĐ-TTg issued in June 2020, Prime Minister Nguyen Xuan Phuc allowed the establishment of a Working Group to promote foreign investment cooperation led by Vice Prime Minister Pham Binh Minh, Minister of Planning and Investment Nguyen Chi Dung is Permanent Vice President; in order to promptly seize investment cooperation opportunities in the new situation, attract projects with high quality, large capital scale, high technology, innovation, spread, promote the digital economy and make positive contributions to the sustainable socio-economic development of Vietnam.

**- Establishing an investment promotion fund.**

Through this capital source, localities will have a common focal point to link together to achieve efficiency in the process of attracting investment capital. The Fund will support investment promotion programs in key markets, targeting investors with source technology and high technology; support the promotion and enhance the image of Vietnam.

**- Various forms of promotion:** Due to the influences of the Covid-19 epidemic, traditional investment promotion activities faced many difficulties. The global outbreak of the COVID-19 epidemic caused supply disruptions, affected export activities, and investment promotion activities also encountered many obstacles. However, in that situation, with the task of supporting enterprises to maintain connections with partners, develop domestic market as well as invest abroad, the Investment Promotion Center has made efforts to find solutions to proactively respond with this situation. Since then, the Investment Promotion Center has flexibly switched to new form of promotion, combining online and face-to-face, promoting the form of contact and attracting investment online, thereby helping Vietnamese enterprises still have access to effective international partners in the context of the pandemic and achieved positive results in order to continue to maintain the relationship, connection and cooperation between enterprises and investors. It can be said that the online investment promotion method is the “golden key” to help enterprises and investors overcome the COVID-19 storm.

*b, Limitations and Existence*

In addition to the progress achieved, there are still many existing problems that limit the efforts to mobilize investment attraction of ministries, branches and agencies. Most of these limitations stem from the organization and activities of investment promotion agencies in addition to certain objective difficulties.

**- Have not planned the investment promotion strategy, the planning work for investment attraction has not been well implemented, overlapping and unclear.**

According to officials doing investment promotion, planning issues affect investment promotion work in all localities. The lack of uniformity between the status of use and ownership of resources in the provinces has made it difficult to formulate specific investment projects. In some

places, although the aquaculture development planning has not been completed yet, investors have planted a full area. Industry plans also affect investment attraction. Many problems in compensation, site clearance, support and resettlement have not been resolved, so some investors do not have land to implement the project.

- **The burden of administrative procedures:** Although we have always directed to speed up administrative procedures reform and support for investors, in reality, administrative procedures related to investment are still too cumbersome, through many stages, many agencies and taking a lot of time and effort of investors. In fact, the implementation of administrative procedures on land and investments also takes a lot of time. The coordination between departments, branches, and localities in supporting investors is still confusing, and not tight,. The civil service ethics of a part of cadres, civil servants, and public employees have not met the development requirements, and the situation is causing harassment and trouble for businesses and people.

- **The use of funding sources for investment promotion activities is costly and inefficient:** Promotion activities do not attract enterprises to participate because of activities's spread out. The content and method of organizing investment mobilization are too simple, heavy on propaganda of laws and policies, not focusing on the program to mobilize potential investors in each field, partner and specific project, so the effectiveness is still low, the locality has had no experience to provide enough information that investors are interested in.

- **Lack of information:** Information about investment opportunities into Vietnam is still limited. Many investors believe that it is difficult to collect information about investment opportunities; Information quality is moderate or poor quality. Information pages on domestic investment in Vietnam have not been updated regularly, making it difficult for investors to seize the specific situation in order to get investment opportunities.

- **Lack of unification among provincial and local promotion organizations:** Although the organizational system of investment promotion agencies from the central to local has been established, there are still many limitations. The Investment Promotion Centers of the Ministry of Planning and Investment (MPI) in three regions of the North - Central - South have just been established, so the operating conditions and mechanisms are in the final stage. Meanwhile, the local Investment Promotion Centers have not been unified from the organization, the name to the operating mechanism. The Investment Promotion Center in this province is under the Department of Planning and Investment, some provinces include trade - investment - tourism in the office of the Provincial People's Committee... As a result, there is an overlap in the organization of investment promotion activities.

- **Lack of funds for promotional activities:** Funding for organizing investment promotion activities is still very limited. Except for large programs organized by the government, most investment promotion programs have modest funding sources from sponsors. With a meager budget, the organization of separate and discrete investment promotion activities is costly and unnecessary.

- **Human resources and expertise in the industry are limited:** In terms of human resources, most units are still lacking. Not to mention, most of the staff still have many limitations on trade promotion and foreign languages.

#### **IV. SOLUTIONS TO STRENGTHEN INVESTMENT PROMOTION ACTIVITIES IN ORDER TO ATTRACT FOREIGN INVESTMENT CAPITAL IN THE NEXT TIME**

##### **1. Viewpoints, orientations on investment promotion in the period of 2021-2030**

The viewpoints and orientations of the State on investment promotion are not specifically mentioned in the Government's documents and reports, but it is basically contained in the general view and orientation on demand of attracting foreign investment capital in the next period. Specifically, according to Resolution No. 50-NQ/TW on perfecting institutions and policies, improving the quality and efficiency of foreign investment cooperation by 2030, the economy's demand for FDI attraction is as follows: Registered capital for the period 2021 - 2025 is about 150 - 200 billion USD (30 - 40 billion USD/year); in the period 2026 - 2030 about 200 - 300 billion USD (40 - 50 billion USD/year). Implemented capital in the period of 2021 - 2025 is about 100 - 150 billion USD (20 - 30 billion USD/year); the period 2026 - 2030 about 150 - 200 billion USD (30 - 40 billion USD/year). The proportion of enterprises using advanced technology, modern management, environmental protection, aiming for high technology increases by 50% in 2025 and 100% in 2030, compared to 2018. The localization rate increased from 20 - 25% at present, increasing to 30% in 2025 and 40% in 2030. The proportion of trained workers in the employment structure increases from 56% in 2017 to 70% in 2025 and 80% in 2030.

To achieve the goal of attracting FDI as set out, investment promotion activities need to continue to change more positively and more proactively to be able to welcome investors from regions with high quality FDI capital resources.

##### **2. Some solutions to strengthen investment promotion activities in the next time**

- *Continue to innovate, perfect and improve the efficiency of investment promotion.* Review, restructure the system of existing investment promotion agencies in a professional, independent, non-overlapping and non-duplicating with agencies with state management function on foreign investment; consider the possibility of linking with trade promotion and tourism flexibly, in accordance with the requirements and characteristics of each locality.

- It is necessary to plan the investment promotion strategy, zoning to serve to attract investment, to avoid unclear overlapping. In addition, it is necessary to promote the reform of administrative procedures, to avoid cumbersome interferences that cause difficulties for investors. Moreover, continuing to replicate investment incentive policies to attract investors in localities

- *Build the key investment promotion strategy.*

Actively promote investment with objectives, focus and focus, associated with new investment cooperation criteria; continue to maintain traditional markets and traditional partners, at the same time expand new markets and new partners. Diversify investment promotion activities and methods; focus on promoting investment on the spot with specific successful cooperation projects. Satisfactory investment in promotion activities. Prioritize the implementation of national, regional and inter-sectoral investment promotion activities.

- *Update information regularly and continuously:*

Publicize, transparent information system of socio-economic, law, policy, planning, plan, market,... thereby helping investors to update information quickly and most accurately about in-



vestment opportunities in Vietnam. Especially in the context of the very complicated epidemic, the provision of sufficient information and the synchronous implementation of both face-to-face and online promotion forms should be further strengthened.

- *Increase the synchronization, unification between levels:*

Strengthening coordination, linkage between the Central government and localities, between regions, between state management agencies and professional associations in investment promotion.

- *Improve funds and budgets for investment promotion activities:*

The efficiency of any investment promotion agency is influenced by the resources devoted to promotion. On the one hand, the budget for investment promotion activities of each agency depends greatly on the objectives, promotion strategy and specific promotion programs. In contrast, investment promotion programs and strategies depend on the resources of each investment promotion agency.

Because investment promotion is an activity for the benefit goal of the community, the financial resources of investment promotion agencies should be taken from the national budget. Besides, it can be taken from foreign aid sources, contributions from the private sector or service fees collected in advance from investors. Investment promotion agencies should also seek other funding sources to utilize their resources.

- *Improve human resources for investment promotion.*

A clear policy and regulatory framework along with great promotion strategies cannot by themselves guarantee actual performance. The investment promotion process to be successful requires employees who have to seize the relevant tasks well and have full enthusiasm, experience as well as necessary skills.

## V. CONCLUSION

Following the success in controlling the pandemic, Vietnam remains a bright spot in attracting FDI, especially in the context that Vietnam has been participating in new generation FTAs. This is an opportunity for us to attract quality FDI capital to recover and develop the economy after the pandemic. Therefore, investment promotion activities need to be renewed and focused, thereby helping to promote the image and investment environment of Vietnam to foreign investors.

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# **FACTORS AFFECTING CUSTOMERS SATISFACTION WITH E-BANKING SERVICES: CASE OF VIETNAM MARINE COMMERCIAL JOINT STOCK BANK**

**Dr. Pham Hai Nam<sup>1</sup>**

**Abstract:** *The study was conducted to assess customer satisfaction with the quality of E-Banking services (E-Banking) of Vietnam Maritime Commercial Joint Stock Bank (MSB). The research results show that the factors affecting customer satisfaction using E-Banking services at MSB include Bank image, Reliability, Service capacity, Assurance, and Tangibles. On that basis, the study proposes some policy implications to maintain and improve customer satisfaction with MSB's E-Banking services.*

**Keywords:** *E-Banking, satisfaction, MSB, commercial bank*

## **1. INTRODUCTION**

With the benefits of technology, the development of electronic banking services (E-Banking) is an inevitable trend in the context of the economic integration of countries around the world. It is not since the Covid-19 pandemic occurred that e-banking has developed, but for a long time, in many countries around the world, e-banking has become a strongly promoted trend. However, the Covid-19 pandemic is the driving force that makes E-Banking more explosive. E-banking is a service that allows users to quickly and conveniently check information or perform transactions through their bank accounts via the Internet or telecommunications networks (Bui, 2019). The benefits brought by E-Banking are great for all stakeholders such as customers, commercial banks as well as the economy, thanks to its conveniences, security, low cost, speed, accuracy, and reliability (Alsamydai et al., 2012; Kumbhar, 2011). Specifically, for customers, E-Banking brings convenience, saves time and costs. For commercial banks, developing E-Banking helps banks reduce costs, improve financial efficiency, has better competitiveness, thereby gaining market share. For the economy, E-Banking contributes to speeding up the circulation of money and goods, simplifies the payment process, develops non-cash payments, and especially, E-Banking contributes to promoting the development of commerce, including e-commerce. Therefore, to survive and develop, commercial banks are focusing all their resources on applying technology in banking activities, in which E-Banking services are paid great attention by banks. (Hammoud et al., 2018; Kavitha, 2017). E-Banking has always been invested by commercial banks in human resources, technical infrastructure, and new and modern technologies such as cloud computing, data analysis, big data, and automation process by robotics, artificial intelligence/machine learning, Blockchain, eKYC, etc. to improve customer service quality, competitiveness as well as efficiency, reputation, and sustainable development of each bank (Niazi et al., 2015; Sunith, 2019).

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In Vietnam, according to the General Statistics Office, by the end of October 2020, the number of payment transactions via mobile phones reached more than 918.8 million transactions with a value of nearly 9.6 million billion VND (up 123.9% in quantity and 125.4% in value over the same period in 2019). The number of payment transactions via the Internet reached nearly 374 million transactions with a value of more than 22.2 million billion VND (up 8.3% in quantity and 25.5% in transaction value compared to the same period in 2019). The total number of transactions through the Interbank Electronic Payment System reached more than 119 million items, with a value of nearly VND 84.3 million billion (up 7.3% in value over the same period in 2019). The financial switching and electronic clearing system processed 960.95 million items with nearly 8 million billion VND (up 75.19% in quantity and 110.92% in value over the same period in 2019). The State Bank of Vietnam (SBV) also issued an Action Plan to implement Directive No. 01/CT-TTg of the Prime Minister on promoting the development of Vietnam's digital technology enterprises (attached to Decision No. 711/QD-NHNN) and an Action Plan to the banking sector's action to implement Resolution 50 of the Government (attached to Decision No. 1238/QD-NHNN) aims to create a favorable legal environment to promote digital transformation in the banking industry, and to promote research and application of technology and develop a variety of digital banking products and services... Therefore, for commercial banks to develop E-Banking services, one of the issues that need to be concerned is service quality and customer satisfaction with the bank's E-Banking services. This is a topic that many researchers around the world and in Vietnam are interested in, such as Khan (2021), Alsamydai et al. (2012), Kumbhar (2011), Hammoud et al. (2018), Niaz et al. (2015), Kavitha (2017), Sunith (2019), Phan (2020), Bui (2019), Chu and Tran (2017), Ngo and Do (2021), Nguyen (2020). These studies show the factors affecting customer satisfaction using E-Banking services at different banks. In this research, the author chooses Maritime Bank (MSB) to conduct the research. The results of this study will provide policy suggestions so that managers at maritime banks can come up with solutions to improve the quality of E-Banking services, better serve customers, and compete more effectively, thereby increasing market share in a fiercely competitive banking market today.

## **2. LITERATURE REVIEW**

### **2.1. E-banking**

According to Daniel (1999), E-Banking is a commercial bank that transmits information and provides services to customers through different technology platforms via computer systems or other smart devices. Allen et al. (2001) argue that E-Banking is the provision of banking information or services by a bank through a computer or television. Keivani et al. (2012) describe E-banking as a general term for the process that allows customers to perform banking transactions through electronic devices without having to go to traditional transaction offices. Meanwhile, the Basel Committee (1998) defined E-Banking to include the provision of retail services and small value products and services through electronic channels as well as large-value payments and other wholesale banking services through electronic platforms.

Thus, through the above definitions, E-Banking is a term used for the modern banking system, allowing banks to automatically provide direct banking products and services to customers through electronic platforms. For example, allowing customers to access their accounts, perform transactions, and receive information about financial products and services through public or private electronic networks, including the Internet.

## **2.2. Customer satisfaction**

According to Levesque and McDougall (1996), customer satisfaction is the state or feeling towards a service provider after using that service. According to Kotler (2000), customer satisfaction is the feeling state of a person derived from comparing the results obtained from consuming a product/service with his expectations. And Oliver (1999) said that customer satisfaction is the emotional/all-perceptive response of customers to service providers based on comparing the difference between what they receive and the previous expectations. Another opinion by Brown et al. (1993), describes satisfaction as a state in which what customers need, want, and expect from a product or service package is satisfied or exceeded, resulting in repeat purchases, loyalty, and the value of word-of-mouth delight.

For the banking sector, a very special sector of the economy, the assessment of customer satisfaction has become very important, especially for new products and services, application of technology. Previous studies on factors affecting satisfaction when using E-Banking services have shown that there are some factors affecting consumers' attitudes towards E-Banking such as Service capacity, Sympathy, Bank image, Confidentiality.

## **2.3. SERVQUAL model (Parasuraman et al., 1988)**

The SERVQUAL model is a tool to measure customer satisfaction about products and services with 10 observable factors, inspired by the Gronroos (1984) model. Parasuraman et al. (1988) reduced the Servqual model to 05 expected components with 22 observed variables: Reliability, Service Capacity, Assurance, Sympathy and Tangible Means. The SERVQUAL model shows that Service Quality = Perceived Level – Expected Value. This is a popular and most applied customer satisfaction research model in business research. For banking research, there are usually the following criteria: Reliability, Responsiveness, Assurance, Empathy, and Tangibles.

## **2.4. SERVPERF model (Cronin and Taylor, 1992)**

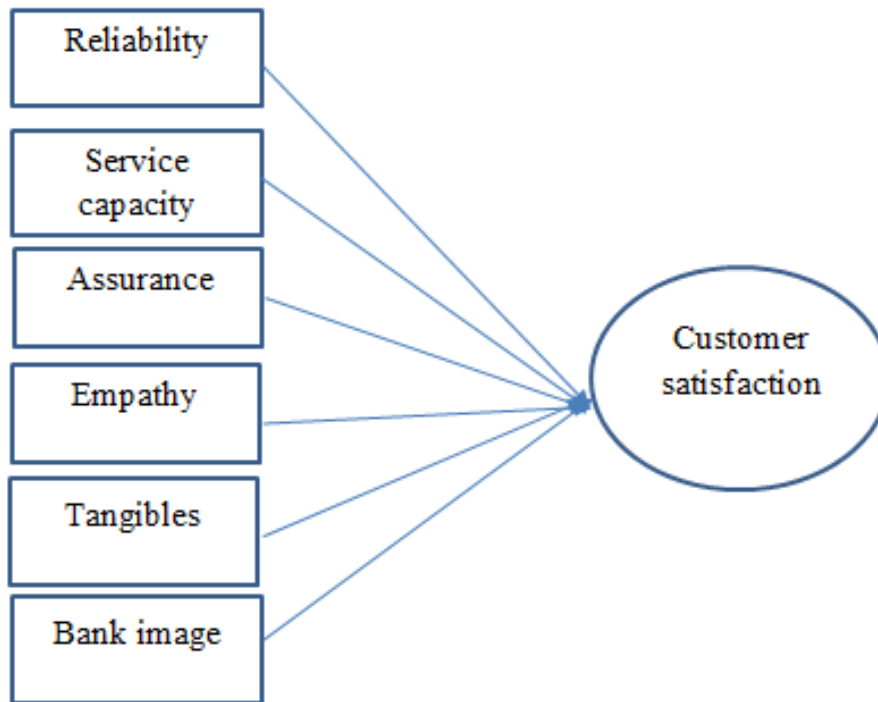
The SERVPERF model was introduced by Cronin and Taylor (1992), which defines “Service quality is a measure of perceived service quality”. The authors argue that service quality is best reflected through perceived quality without the need for expected quality as well as weighted evaluation of the five components. Therefore, instead of measuring both perceived quality and expectations like SERVQUAL, SERVPERF only measures perceived quality. Using the SERVPERF scale to measure service quality has partly reduced the limitations of the SERVQUAL scale in distinguishing between customer satisfaction and attitude. Therefore, in order to quickly assess the quality, many service sectors have chosen SERVPERF as an optimal tool to measure the quality of their services.

## **3. METHODOLOGY AND PROPOSED MODEL**

### **3.1. Research model**

Based on the Servqual model of Parasuraman (1988), Cronin and Taylor (1992) developed, reduced the survey questions, and removed the expectation factor to give birth to the Servperf model. According to this model, Service quality = Perceived level. This conclusion is concurred by other researchers. Therefore, based on a combination of related theories and previous studies, the author builds a research model of the factors affecting customer satisfaction about E-Banking

services of MSB, including six factors: Reliability (DTC), Service capacity (NPV), Assurance (SDB), Empathy (SCT), Tangibles (PHH), Bank image (HAN).



**Figure 1: Proposed research model**

The study considers the following hypotheses:

Hypothesis H1: Reliability has a positive effect on customer satisfaction for MSB's E-Banking services.

Hypothesis H2: Service capacity has a positive influence on customer satisfaction for MSB's E-Banking services.

Hypothesis H3: Assurance has a positive influence on customer satisfaction for MSB's E-Banking services.

Hypothesis H4: Empathy has a positive influence on customer satisfaction for MSB's E-Banking services.

Hypothesis H5: Tangibles have a positive influence on customer satisfaction for MSB's E-Banking services.

Hypothesis H6: Bank image has a positive influence on customer satisfaction for E-Banking MSB services.

### **3.2. Data and methodology**

To build a scale, the study conducted direct discussions with some managers and customers to determine the factors that are likely to affect customer satisfaction with MSB's E-Banking services, and at the same time adjust the variables in the research model as well as the scale accordingly.

The discussion was conducted with the participation of 10 experts and 10 customers using E-banking services at MSB, related discussion questions on factors affecting customer satisfaction with MSB's E-Banking services. Next, a questionnaire survey was carried out on the number of 40 customers using E-Banking services by convenient random sampling method at branches/transaction offices of MSB. The purpose of this customer survey is to adjust and supplement the scale. The official scale includes 30 observed variables of 6 factors affecting customer satisfaction and 4 observed variables measuring customer satisfaction. Based on the official scale, the author distributes questionnaires to customers who are using E-banking services at MSB. The survey sample in the study was carried out by convenient sampling method, by directly interviewing customers through survey questionnaires. The selected sample size is 250 customers who are using E-banking service at MSB.

Preliminary analysis results show that the Cronbach's Alpha coefficient of each scale is greater than 0.6, and the total correlation coefficient is greater than 0.3. Therefore, we can conclude that the scales are eligible for inclusion in this study.

#### 4. RESEARCH RESULTS

The EFA exploratory factor analysis method was conducted using SPSS software, and the KMO index result was  $0.755 > 0.5$ , so the factor analysis is appropriate, the Sig value of Bartlett's test equals  $0.000 < 0.05$ , so variables are correlated with each other, so grouping the variables is suitable for inclusion in exploratory factor analysis. There are 6 extracted factors, all have the Eigenvalue greater than 1, and the breakpoint when extracting factors at factor 6 has an Eigenvalue of  $1.325 > 1$ . The sum of extracted variances of 6 factors is  $75.426\% > 50\%$ , which shows that using these 6 components has the ability to explain 75.426% of the variation of the observed variables. Based on the factor rotation matrix when running EFA, the remaining 25 variables are extracted into 6 factors.

**Table 1. Rotated Component Matrix**

	1	2	3	4	5	6
DTC1	0.658					
DTC2	0.589					
DTC3	0.715					
DTC5	0.624					
DTC4	0.711					
SDB1		0.786				
SDB4		0.814				
SDB3		0.645				
SDB2		0.689				
HAN1			0.871			
HAN3			0.845			
HAN4			0.684			
HAN5			0.652			

PHH2				0.714		
PHH1				0.568		
PHH4				0.754		
PHH5				0.655		
NPV1					0.667	
NPV3					0.759	
NPV2					0.894	
NPV5					0.684	
SCT1						0.714
SCT3						0.655
SCT2						0.687
SCT4						0.789

Source: Analysis results from SPSS 20 software

The results of EFA analysis from Table 1 shows that the factor loading of the variables (>0.5) and the difference between the components in the same factor is greater than 0.3. Thus, the scale is accepted, and 25 observed variables are gathered into 06 groups of variables, namely: Reliability, Service Capacity, Assurance, Empathy, Tangibles, Bank Image.

To ensure the appropriateness of the model, the author performed F-test in the ANOVA analysis of variance to assess whether the dependent variable and the independent variables have a linear relationship or not.

**Table 2: ANOVA test results**

ANOVA						
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	67.315	7	14.205	38.145	0.000
	Residual	18.258	174	0.314		
	Total	85.573	181			

Source: Analysis results from SPSS 20 software

Based on the results from Table 2, we can conclude that the multiple linear regression model is suitable for the data set and can be used for analysis.

$$HL = \beta_0 + \beta_1 DTC + \beta_2 SDB + \beta_3 HAN + \beta_4 PHH + \beta_5 NPV + \beta_6 SCT + \epsilon$$

Where:

$\beta_0$ : Constant

$\beta_i$  (i=1,6): Coefficient

$\epsilon$ : Residual

**Table 3: Results of linear regression**

Model	Unstandardized Coefficients		Unstandardized Coefficients	t	Sig.	Collinearity Statistics	
	Beta	Std.	Beta			Tolerance	VIF
<b>Constant</b>	0.684	0.036		4.125	0.000		
<b>DTC</b>	0.258	0.042	0.671	3.258	0.005	0.657	1.658
<b>SDB</b>	0.368	0.087	0.452	5.254	0.006	0.541	1.543
<b>HAN</b>	0.455	0.072	0.689	3.165	0.058	0.754	1.215
<b>PHH</b>	0.214	0.025	0.315	4.752	0.045	0.945	1.415
<b>NPV</b>	0.535	0.046	0.614	2.257	0.056	0.625	1.365
<b>SCT</b>	0.215	0.054	0.422	3.254	0.345	0.754	1.875

*Source: Analysis results from SPSS 20 software*

The results from Table 3 show that the independent variables DTC, SDB, HAN, PHH, NPV have Sig values less than 5%, showing high reliability and statistical significance. In addition, the VIF coefficients are all less than 2, and the Tolerance numbers are all > 0.5, indicating that no multicollinearity occurs.

Thus, through the data of Table 3, we can see that there are 5 factors that have the same impact on customer satisfaction when using E-Banking services at MSB, and the sig coefficients of these 5 variables are all smaller 0.05, so the five hypotheses originally formulated for the study were accepted. Among the above factors, the factor Bank image has a standardized beta coefficient of 0.689 and has the strongest impact on customer satisfaction when using E-Banking services at MSB; followed by the Reliability factor, which has a standardized beta of 0.671 and has the second strongest effect; the Service capacity factor has a standardized beta coefficient of 0.614 and has the third strongest effect; the fourth strongest effect is the Assurance factor with a standardized beta of 0.452, and the last one is the Tangible media factor, which has the weakest effect with a standardized beta of 0.315. With this result, it shows that there are similarities with many previous studies related to customer satisfaction when using E-Banking services, although the impact level of the factors is not the same, the research result has reflected the actual situation as well as the need for MSB to improve customer satisfaction when using E-Banking services.

## 5. DISCUSSION AND CONCLUSION

From the results of the regression analysis of the research model above, the author gives some policy implications to improve customer satisfaction with MSB's E-Banking services, specifically as follows:

First, Bank image has the strongest impact on customer satisfaction when using E-Banking services at MSB. This result comes from the fact that customers highly appreciate the brand name of MSB, creating a good reputation for customers when using E-banking services and other products and services. However, the competition between banks is getting fiercer; therefore, MSB needs to maintain regular investment in building its bank image, especially to strengthen the promotion of E-Banking services further, highlighting the differences between MSB and other banks in terms of E-Banking.

Second, the Reliability factor is the next most influential factor. In addition, the Assurance



factor has the fourth strongest level. Therefore, MSB needs to regularly upgrade, invest and apply the most modern security technology; establish a reasonable decentralized system within the bank on the right to access customer information; improve the safety when using E-banking services; quickly handle immediately when security problems occur.

Third, Service capacity has the third strongest level of impact. Therefore, to ensure the smoothness of the E-banking service, the bank improves the processing capacity of the software system, avoiding absolutely the occurrence of network congestion, network drop, or overload of processing capacity. The delay in processing transactions can cause discomfort and frustration for customers, negatively affecting customers' continued use of E-banking services.

Finally, the fifth most powerful factor is the Tangibles. The bank needs to modernize its tangible facilities to serve the E-Banking system better, improve the service capacity and capacity of this system, and meet the increasing demands of customers for E-banking services.

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# IMPACTS OF THE FOURTH INDUSTRIAL REVOLUTION COMPETITIVENESS OF VIETNAM BUSINESSES

PhD. Nguyen Ngoc Anh<sup>1</sup>

**Abstract:** *Vietnamese businesses are experiencing rapid changes in terms of growth, the labor market and the future of employment. Besides, it is necessary to pay attention to a significant factor that also affects the competitiveness of Vietnamese enterprises today, which is the underlying technology of the fourth industrial revolution, which is having a great influence on the mode of regulation. operating, organizing and mobilizing resources of the enterprise. The article mentions the impacts on the business environment of enterprises, challenges to the competitiveness of enterprises, creating opportunities to improve the competitiveness of enterprises; thereby offering solutions to improve the competitiveness of Vietnamese enterprises in the current context.*

**Keywords:** *competitiveness, Vietnamese enterprises, the fourth industrial revolution...*

## 1. MAKE A PROBLEM

The world has experienced three industrial revolutions. These industrial revolutions, in fact, are the development of technology, the decisive factor in the development of civilization of human society towards the prosperity of mankind. The development of technology has created and formed new, modern and effective governance models, management methods, business methods, and transaction methods; changing the market size, becoming more and more fierce competition at each country, regional and global scale; directly promote the improvement of productivity, efficiency of enterprises and people's living standards, contributing to the development of nations.

Today, the world is entering the fourth industrial revolution (referred to as Revolution 4.0 for short), the revolution is developed on the basis of the third industrial revolution with the foundation of information technology. , automation of production but by the fusion of these technologies has linked the physical, digital and biological fields together to act as a unified ecosystem, contributing to the creation of an intelligent society. with e-government, smart factories, smart cities and smart countries, in which with the development of the Internet of things (IoT), digital, cloud computing, The virtual space system will interact with each other and with people in real time, diversify services and improve the quality of human services.

Enterprises are the main force creating material wealth, ensuring sustainable socio-economic development of countries, so they are always the main object of direct impact and the place to apply achievements. The development of industrial revolutions, especially in the context of Revolution 4.0, is determined to promote an exponential increase in labor productivity. Therefore,

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businesses are very concerned about their competitiveness in the face of the impact of the 4.0 Revolution to ensure long-term competitive advantages on a regional and global scale for success and development. , ensuring the requirements of creating sustainable profits, creating budget revenue, creating jobs and ensuring social security for socio-economic development towards sustainable development. The article focuses on analyzing the impact of Revolution 4.0 on the competitiveness of Vietnamese enterprises so as to have a suitable and effective approach, contributing to improving the competitiveness of Vietnamese enterprises. , product competitiveness and national competitiveness improvement in the context of industrial revolution 4.0 and international integration.

## **2. CONTENTS**

### **2.1. Technology development trends, products of the 4.0 Revolution**

The major development trends of technology in the 4.0 Revolution are the main driving force that determines the speed, level of impact, and scope of impact on the competitiveness of enterprises. In general, up to now, technology development trends can be divided into three main groups based on the fields of physics, digitalization and biology, which are closely related to each other and with other technologies to create development. technology development in this area as well as in other areas of social life. This technology development trend is the foundation for creating and maintaining the competitiveness of enterprises and national competitiveness in the 4.0 Revolution.

(i) Physics with key groups of factors: (1) Self-driving cars are becoming more and more dominant alongside many other types of self-driving vehicles and with the development of sensors, artificial intelligence, and capabilities. the performance of these vehicles is also improving at a rapid rate; (2) 3D printing technology or additive manufacturing, which involves creating a physical object by printing in layers from an existing drawing or 3D model; (3) Advanced robots are used more in all fields, are becoming more adaptive and flexible with structural and functional designs inspired by complex biological structures; and (4) New materials with superior characteristics that are lighter, more durable, recyclable and adaptable.

(ii) Digitization is the convergence of physical applications and digital applications with the emergence of the Internet of Things. Sensors and solutions that connect the real world to the cyberspace are evolving at an astonishing rate. The number of devices is expected to grow dramatically over the next few years, radically changing the way supply chains are managed by enabling monitoring and optimization of assets and operations to a very granular level.

(iii) Biology has undergone significant changes with reduced costs and advantages in genome sequencing, activation or gene editing. The development of synthetic biology capable of customizing the body by editing DNA and the further development of synthetic biology will have a profound impact not only on medicine but also on agriculture and biofuel production. learn.

(iv) To maintain competitiveness, force countries and businesses to invest heavily in science and technology development to get breakthroughs in smart technology so that they can achieve a sufficient level of productivity to maintain or improve the competitiveness of enterprises and

the country, thereby ensuring the quality of life when the population is aging rapidly and market competition is increasingly fierce. WEF forecasts that there will be many major breakthroughs in technology in the period 2018 – 2030 (see Figure 2). These are the fundamental and central technologies of the new industrial revolution, creating new competitiveness for businesses and a new face of global socio-economic life.

2018	2021	2022	2023	2024	2025	2026	2027
Storage for All	Robots and service	<ul style="list-style-type: none"> <li>- The internet of and for Things</li> <li>- Wearable Internet</li> <li>- 3D Printing and Manufacturing</li> </ul>	<ul style="list-style-type: none"> <li>- Labour graft technology</li> <li>- New interface</li> <li>- Big data</li> </ul>	<ul style="list-style-type: none"> <li>- Computer in everywhere</li> <li>- Medical 3D printing application</li> <li>- Connector House</li> </ul>	<ul style="list-style-type: none"> <li>- Application of 3D printing in the production of consumer goods</li> <li>- Sharing economy</li> </ul>	<ul style="list-style-type: none"> <li>- Driverless cars</li> <li>- Pine City bright</li> </ul>	<ul style="list-style-type: none"> <li>- Digital currency (bitcoin) and blockchain technology</li> </ul>

(Source: WEF (2015), *Deep shift: Technology tipping points and social impacts*)

**Figure 2: Forecast of timelines with technological breakthroughs up to 2030**

From the above technology development trend, it is forecasted that technology products will appear in 2025, shaping the current and long-term competitive level of enterprises. The World Economic Forum’s report published in September 2015 identifies 21 technology products that will shape the digital future and the hyper-connected world, which are expected to emerge in the next 10 years from the changes depth of the 4.0 Revolution, specifically: 10% of the population wears clothes connected to the Internet; 90% of the population can store unlimited and free data; 1 trillion sensors connected to the Internet; The first robotic pharmacist in the US; 10% of glasses connected to the Internet; 80% of people have a digital presence on the Internet; The first car produced entirely by 3D printing technology; The first government to replace the census with big data sources; The first commercially available implantable cell phone; 5% of consumer products are manufactured using 3D printing technology; 90% of the population uses a smartphone; 90% of the population regularly access the Internet; 10% of cars on US roads are driverless; The first liver transplant made with 3D printing technology; 30% of company audits are done by artificial intelligence; For the first time the government collects taxes via a blockchain; More than 50% of Internet traffic at home is related to consumer devices; More travel or business trips are made through shared means than by private means; The first city with more than 50,000 people without traffic lights; 10% of global gross domestic product is stored on blockchain; The first artificial intelligence machine used for corporate boards.

**3. IMPACT OF THE FOURTH INDUSTRIAL REVOLUTION ON THE COMPETITIVENESS OF VIETNAMESE ENTERPRISES**

**3.1. Impact on the business environment of enterprises**

Revolution 4.0 is at the beginning stage with many technologies of the future, in which most of the fundamental technologies of the 4.0 Revolution are forecasted to have breakthroughs and be widely applied in production and life from the middle of the decade. 2020 onwards. From the actual

impact of the previous three industrial revolutions, the 4.0 Revolution predicts the formation of a new business environment - a virtual business environment in the future with the following impacts:

a) Impact on the correlation of global economic power in international integration the global financial crisis 2008-2009, the trend of shifting the world economic balance from the North Atlantic to the Pacific Ocean, North to South is accelerated due to strong emerging economies. To date, in just five years after the crisis, emerging economies have closed a gap with developed countries that usually takes 1-2 decades. Under the impact of Revolution 4.0, the shift of the world economic balance to a multipolar system is more of an objective trend, but the process of shifting the correlation of economic power between countries in the coming years will be bumpy and more complex. Specifically: (i) Some developed countries such as the US and Germany are in a leading position and orientation towards the Fourth Industrial Revolution due to the advantage of being the starting point of the 4.0 Revolution and having the potential to invest heavily in the fields of Industry and Commerce. core technology areas of the 4.0 Revolution; (ii) The economic scale (quantitative) of emerging economies like China has narrowed significantly compared to developed countries, but the gap in science - technology and institutional quality (in terms of quality) still very large.

b) Speeding up the process of shifting the economy to a knowledge-smart economy. Core scientific and technological achievements in the 4.0 Revolution aim to optimize production, management and consumption processes such as smart infrastructure, smart factories, smart cities, smart countries, etc has accelerated the process of developing the economies of countries towards a knowledge-smart economy. An economy that possesses a lot of knowledge and high-quality human resources will gain a great advantage in global competition.

Changing thinking and reorganizing value production chains. The high scalability and flexibility of core technologies is the main achievement of the 4.0 Revolution, blurring the boundaries between stages/stages and production processes, fundamentally changing the way people create products, thereby creating a "revolution" in the organization of value production chains. Labor costs and processing and assembly stages/stages are less and less important in the 4.0 Revolution due to their replacement by intelligent robots with lower costs. For example, a robot that costs \$20,000 today can assemble 30,000 iPhones/year, so assuming the robot is depreciated in a year, the cost of assembling an iPhone is only about 66 cents.

In the field of traditional manufacturing, with intelligent robotics technology and 3D printing, production lines are and will gradually move to industrialized countries, not because of rising labor costs, but because the multinational corporation wants to bring production closer to the customer so that it can react more quickly to changing demand. Thus, Revolution 4.0 will change the production-investment mindset from finding a place to produce with low-cost labor to a place with a large market and high technology. The consequence of this transformation of thinking is to fundamentally change the structure and organization of the production - value chain, leading to changes in the flow of investment and international trade.

c) Promote labor-society restructuring. The 4.0 revolution strongly promoted labor restructuring in many countries, appeared an increasing number of creative classes/classes in the fields of science, technology, design, entertainment,.. and held a leading position. in the labor

force in many countries such as Luxembourg (54%), Singapore (47%), Switzerland (47%), Ireland (45%). The 4.0 revolution has the most direct and most impact on industries and fields. use a lot of low-skilled labor due to automation, intelligent robots. WEF forecasts that new technologies will replace about 7.1 million jobs worldwide between now and 2020. The International Labor Organization (ILO) forecasts that about 56% of jobs in Southeast Asia are likely to be displaced. replaced by technology over the next two decades. According to OECD research, only about 9% of jobs in OECD countries can be automated 30% of jobs requiring new skills.

d) Impact on the labor market. The high automation, artificial intelligence and hyper-connectivity in Industry 4.0 increase labor productivity, reduce the cost of existing jobs, or create demand for entirely new jobs that reduce Cost effects have an impact on the labor force in the short run, but mainly on the low-skilled workforce. Breakthrough changes in production and business models will place new requirements on skills, skills and ways of working. WEF forecasts that from 2015 to 2020, there will be over 5.1 million workers worldwide losing their jobs. In May 2016, Foxconn, Taiwan, which assembles devices for Apple, announced that it would use AI robots to replace 60,000 assembly workers<sup>3</sup>. In Vietnam, the 4.0 Revolution will certainly reduce the competitive advantage of low-cost and low-skilled workers, working in industries with a large number of businesses and employees, which will be at risk. replaced by automation and robotic processes.

d) Impact on business. The 4.0 revolution has four main impacts on businesses: (i) on customer expectations, (ii) on improving product quality, (iii) on collaborative innovation, and (iv) on forms of innovation. organization and mode of production and business. The technologies underpinning Industry 4.0 are having a big impact on businesses, where the speed of innovations and the asymmetry of market information require a change of mindset and management solutions. effective risks.

e) The development of new technology platforms has formed a “sharing” or “on-demand” economy and at the same time for smart consumers in making product decisions that allow the combination of both supply and demand. and the need to disrupt the existing industry structure, Uber and Grab services are an example.

f) Another feature of the 4.0 Revolution is that the initial investment capital for a start-up may not be large, but the profits are high. Enterprise values of up to \$400 million per employee such as WhatsApp’s are an example of the potential for large profits from low-capital business models in the future. Another example is Airbnb and Uber, the growing growth of the internet of things allows better access to each unit, from which it is possible to monitor and evaluate their performance in real time.

g) Impact on economic security. Challenges on information security and network security, on types of high-tech crimes, along with challenges on qualifications, capacity, quantity and quality of information technology staff. The increasingly sophisticated development of digital technology has led to an increase in security holes, creating conditions for high-tech criminals, hackers (hackers) to operate more and more often, especially for the banking industry. row. The fact that the Central

Bank of Bangladesh was attacked by hackers in February 2016<sup>1</sup> is a warning and a lesson in paying more attention to information security infrastructure. In addition to crippling all bank transactions, high-tech criminals are always stalking to attack accounts, forge card blanks and steal customers' money, hackers can also directly attack the system. system of a bank, performing large-scale money transfers such as the 2015 attack on Tien Phong Commercial Joint Stock Bank<sup>2</sup>.

### 3.2. Create opportunities to improve the competitiveness of enterprises

The 4.0 revolution has the following major opportunities that can be effectively utilized to enhance the competitiveness of enterprises:

Having conditions to absorb and apply technological advances and achievements of mankind, first of all, information technology, digital technology, control technology and automation to improve productivity and efficiency in all areas. all stages, especially management in the whole economy, government systems at all levels, sectors, businesses, individuals and households.

(i) Opportunities to develop more new products and industries and innovate to develop existing economic sectors due to the application of advances and achievements in information technology, digital technology, control technology, technology biotechnology.

(ii) Opportunity to take the lead, form and rapidly develop a knowledge-smart economy, narrow the gap and catch up with the forerunners in the region and the world through absorbing, mastering and applying quickly into production and business, managing technological advances and achievements. With the existing advantages, relatively good and cheap Internet infrastructure, while high-configuration, low-cost mobile devices are becoming popular along with the development encouragement of the Government, Vietnam has great potential. The development of information technology, social networking technology, mobile, analytics and cloud computing (SMAC) is huge.

(iii) Biotechnology and medical technology have a strong impact on productivity and quality of crops and livestock, thereby increasing the value in each agricultural product, which is very meaningful for a farmer. countries with agricultural advantages like Vietnam. With the reform of varieties, raising and planting methods, it will create a clean agriculture with high quality products that are competitive in the world market. Modern biotechnology successfully applied in medicine and pharmacy, especially in drug production and in disease diagnosis, is especially important for Vietnam in the coming period.

1 In February 2016, a group of hackers hacked and stole nearly 1 billion US dollars from the account of the Central Bank of Bangladesh at the US Federal Reserve (Fed) New York branch. Although it was stopped soon after, \$81 million was transferred to bank accounts in the Philippines and then to casinos.

2 The bank's risk warning and monitoring system detected a fraudulent wire transfer of more than 1 million euros (\$1.13 million) via a third-party service that TPBank uses to connect to the system. SWIFT global money transfer system. This wire transfer was intercepted and the attack did not affect SWIFT's system or TPBank's other transactions with customers. Accordingly, this bank determined that it is possible that malware (malware) has been installed into an application that a third party has been hired by TPBank to connect them to the SWIFT system with a server located abroad. Soon after, TPBank terminated the contract and switched to a new system with higher security and allowing them to connect directly with SWIFT.



(iv) Open up many opportunities for Vietnamese businesses to enter advanced, productive and highly efficient industries and fields such as informatics, computing, and robotics that training institutions and Vietnamese workers may have strengths. According to the WEF, until 2020, it will be very difficult for businesses to recruit experts in computers and mathematics, and the war for talent continues between countries and businesses.

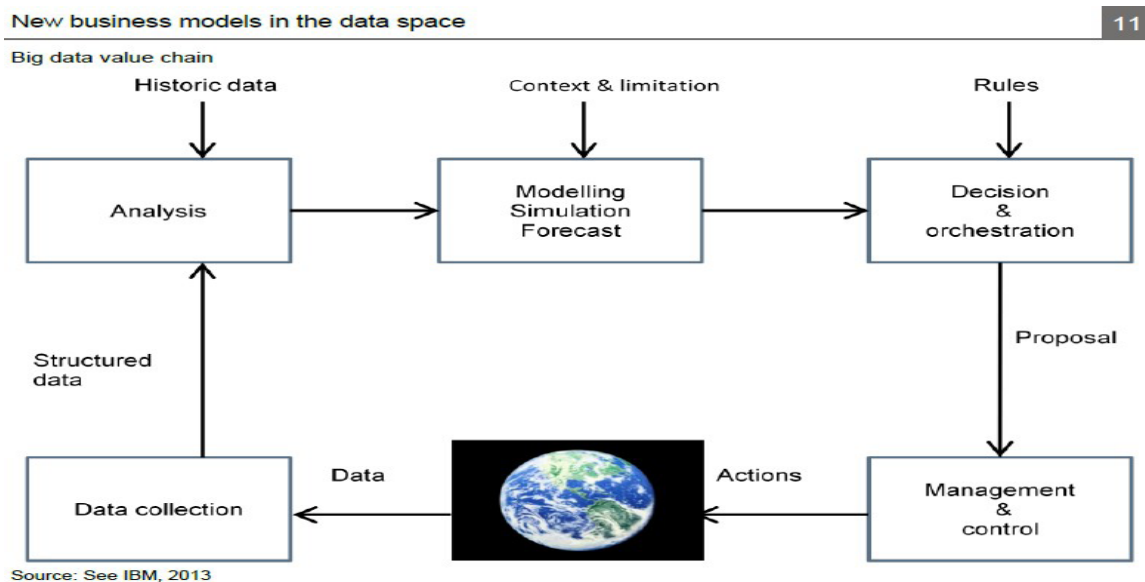
(v) The rapid change of technology and the demand for new skills in this industrial revolution also open up opportunities for Vietnamese workers to improve their quality, change careers, and quickly acquire new skills. new skills that meet the needs of employers.

**3.3. Challenges to the competitiveness of enterprises**

The 4.0 revolution based on mobile Internet, cloud computing, large-scale data storage, Internet of Things will have the following major challenges for Vietnamese businesses:

a) The qualitative change in the traditional business model in the direction of interaction, business-customer-partner resonance on the basis of intelligent technology application, automation on a global scale. demand, exploiting big data has been and will have a very strong impact on the intensity and competitive advantage of the industry, business industry and products in this transition. This new business model (see Figure 3) has a number of key characteristics such as: blurring the current division of economic sectors, the industry’s shift to a digital ecosystem based on digital information technology, moving from competitive advantage in price and product differentiation to competition by creating experiential value with open creativity, gradually abandoning creativity mainly from the R&D department and business value based on process. scale of approach and depth of interaction with customers instead of a company value system based on assets and cash flow.

**Figure 3. New business model in the 4.0 Revolution**



(Source: Stefan Heng, Deutsche Bank Research, (2014), Industry 4.0: Upgrading of Germany’s industrial capabilities on the horizon)

In the period 2010 - 2016, on a global scale, spending on cloud computing increased by 42.5% per year on average, of which the average rate was higher than in Asia (49.1% per year), ASEAN (49.5%/year). Among ASEAN countries, Vietnam has the highest average growth rate (64.4%/year) but the absolute spending value is still low compared to Singapore (107 times), Malaysia (6.5 times) and 1.2 times that of the Philippines. Changing business models are also challenges to the competitiveness of enterprises. The challenge of changing business models, governance models with the inevitable shift from simple digitization (Third Industrial Revolution) to creativity/intelligence based on technology combination (Revolution 4.0) is forcing domestic enterprises to rethink how they do business and make adjustments to match the trend of smart management of AI, digital businesses, especially in the field of smart management. Banks show that 100% of domestic banks apply a centralized management method based on the core banking system, but due to the uneven development of technology among banks, it has hindered the application. industry-wide professional issues.

At the same time, it creates challenges in developing new distribution channels, modern and highly integrated banking products and services when living in a new world hyper-connected world with instant messaging, social media, multi-touch tablets, and a host of other digital and biotechnology technologies<sup>1</sup>. Customers in the 4.0 era are more demanding, demanding more choices, easier access, and better, faster and more efficient delivery methods and services; they have much more control over transactions and are no longer dependent on a limited number of service providers, thus becoming more powerful. It is forecast that within the next 10 years, the majority of retail banking revenue will come from the web, mobile phone or tablet app. Therefore, if domestic banks do not grasp and change according to the trend, improve the applicability of service utilities on mobile phones, and strongly develop service support via the Internet, the It is very difficult for customers to continue using and sticking with the bank for a long time<sup>2</sup>.

b) The requirement to ensure the security, safety and confidentiality of network data is the biggest cross-border challenge today for businesses' business activities, for the national technical infrastructure, especially for the national technical infrastructure. especially for the banking system. In 2016, criminals using high technology such as e-commerce fraud, hackers stealing money or cheating in electronic payments, card payments ... caused up to 450 billion USD in damage to the global economy. 4]. Especially in June 2017, a cyberattack caused by a new virus from Ukraine has spread to more than 60 countries and territories, paralyzing seaports stretching from Mumbai (India) to Los Angeles. (America). This shows the huge loss risk that businesses around the world face with the recent increase in cyberattacks whose goal is the use of powerful erasure software that makes it impossible to recover. recover lost data [1].

Vietnam was identified as one of the top 10 global cybersecurity "hot spots" in 2016, ranking 10th (2.6%) compared to the US (23.96%). In 2016, Vietnam was the source of 2.16% of global cybersecurity threats, more than double from 0.89% in 2015. In July 2016, the database of the national airline Vietnam Airlines has been hacked, leaking information about many of its regular customers [2]. This proves that Vietnam's ability to ensure network security is still very weak, in 2015 according to the Vietnam Information Security Association (VNISA), information security

1 Google Finance Australia reports that 88% of Internet users in Australia search for mortgage loan services online and spend an average of 6 to 11 hours searching for these services before choosing a provider. potential and contact them.

2 HSBC has continued to enjoy great success with First Direct (the most popular internet bank in the UK).

index 46.5%, Vietnam ranked 76th/ 196 countries in the world, ranking 17th out of 40 countries in the Asia-Pacific region. The data security market is also set to account for 23% of the total global value for strong growth with segmented identity and access in cloud applications. This market will grow at a CAGR of 8.4% in 2023. This is both a challenge for enterprises' business activities but also new and potential markets in the 4.0 Revolution.

c) Challenging institutional capacity, that is, building and perfecting the legal framework for digital business activities, especially non-traditional payment activities. The legal framework and mechanisms and policies related to digital banking and non-cash payments need to be reviewed, revised and supplemented to meet actual requirements, especially for digital banking products and services. e-banking services, new electronic payment means. Currently, many contents are not suitable for electronic transaction methods, limiting the banking system's ability to take advantage of new technological strengths. In addition, the legality of using electronic documents and data to replace paper documents for payment relations between payment service providers and customers needs to be specified in written documents. law version. The coordination from other ministries and sectors in completing the legal corridor for banking activities is also facing significant difficulties in terms of perspective, time and space in order to keep up with the changes of the financial market.

d) The challenge of high quality of human resources in information technology to meet the requirements of the 4.0 Revolution.

Revolution 4.0 places a high demand on workers who are able to adapt and create technology, in other words need more "talent" than "skill". Although there are abundant young human resources, the quality of human resources in Vietnam is still limited. Vietnam's labor productivity is still far from the region and the world. In 2012, Vietnam's labor productivity was still lower than Singapore 14.5 times, Japan 8.5 times, South Korea 7 times, Thailand 2.9 times<sup>8</sup>. Assuming the average labor productivity growth rate is maintained as in the 2007-2012 period, it will take until 2038 for Vietnam to catch up with the Philippines, and in 2069 to catch up with Thailand<sup>1</sup>. If only relying on simple skilled labor, Vietnam will not be able to catch up with Revolution 4.0.

In the field of information technology in general and high technology in particular, Vietnam will have a serious shortage of human resources in the next few years. According to estimates by Vietnam Works, if human resource growth continues at 8%, Vietnam will be short of about 78,000 IT workers per year and by 2020 will be short of more than 500,000 employees, accounting for more than 78% of the total. information technology human resource needs. This is both a great pressure, but also an opportunity to be determined to fundamentally and comprehensively renew Vietnam's education and training in order to build high-quality human resources capable of quickly adapting to new technologies as well as having technological innovation capabilities.

e) National digital and information technology infrastructure lags behind other countries in the region and the world. According to the ranking of the World Economic Forum in 2015, out of a total of 143 ranked countries, Vietnam ranks 85th in the Network Readiness Index (NRI). Compared to 2013 and 2014, Vietnam's ranking in 2015 was almost unchanged. Meanwhile, Singapore, a country in the ASEAN region from 2nd place in 2014, has risen to the top of the world in connectivity infrastructure. Another country in Southeast Asia, Malaysia, has also entered the top 30 countries with the highest network infrastructure readiness index in the world. To avoid

<sup>1</sup> Ministry of Planning and Investment, Report on labor productivity in Vietnam, 2015.

falling behind in the digital economy, Vietnam needs to strongly develop connectivity infrastructure as well as more effectively deploy public-utility telecommunications services, improve its NRI ranking compared to other countries in the world. region and around the world.

#### **4. SOME SOLUTIONS TO IMPROVE THE COMPETITIVENESS OF VIETNAMESE ENTERPRISES IN THE CONTEXT OF THE FOURTH INDUSTRIAL REVOLUTION**

*Firstly*, building an environment and innovation startup ecosystem for businesses to operate is an important factor and an important task of the State to make the most effective use of opportunities from the 4.0 Revolution. The period 2012 - 2016 witnessed a significant growth in both quantity and quality of business incubators and promoters as there were about 23 incubators and 11 business promoters. According to statistics from Topica Founder Institute and Greektime, there are currently about 1,800 innovative businesses in Vietnam. These models increasingly play an important role in nurturing the formation and development of scientific enterprises. Although business promotion organizations are a new model, they have also proven effective in the startup community in Vietnam. Among the current business promotion organizations, there are 10 private or foreign organizations that are operating very effectively, providing more comprehensive and focused support for scientific enterprises such as: mobilizing support initial investment capital and subsequent rounds of investment capital from domestic and foreign individuals and organizations for potential start-up projects; provide co-working space, physical - technical facilities, business skills training; offers mentoring and networking programs that are invested in a wide range of potential scientific businesses. Currently, there are nearly 30 foreign venture capital funds in addition, there are investment activities for innovative startups in Vietnam such as IDG Ventures, CyberAgent Ventures, VinaCapital, 500 startups and an increasing trend.

*Second*, perfecting the legal system, economic institutions to promote innovation, competitive and transparent business environment with the least cost, in which e-Government, service integrity is the core. Building a strict legal framework in line with international practices to create a transparent and equal business environment, protect intellectual property, encourage entrepreneurship, and create motivation for all business sectors. The economy is constantly innovating and starting a business based on innovation. Improve administrative discipline and civil service discipline of cadres and civil servants at all levels to effectively implement innovation policies.

*Third*, support and guide innovation in technology, promulgate a system of technical regulations and standards for smart products, smart economic industry, smart city and smart country. Enterprises need to focus on investing in technological innovation and applying advanced technology in production. At the same time, linking with scientists, scientific and technological organizations at home and abroad to promote trading, exchange, purchase and sale, support and advice on modern equipment and technology, provide technology information.

*Fourth*, upgrade, develop and modernize the national technical infrastructure system for information technology and cloud computing applications. Information and communication technology has been identified as one of the important driving forces to develop the knowledge economy, information society, and improve national competitiveness; contribute to promoting industrialization and modernization; ensure rapid and sustainable development of the country; building Vietnam into a smart country, so promoting investment and development of information technology infrastructure is extremely urgent, it is necessary to go one step ahead and go straight to modernity. In the coming time, to avoid falling behind in the digital economy, Vietnam needs

to strongly develop connection infrastructure as well as more effectively deploy public-utility telecommunications services, upgrade and develop infrastructure. connection layer, information technology, every citizen can become a digital business. In addition, according to experts from the United Nations, developing network infrastructure and public-utility telecommunications services to border areas, islands and remote areas will help improve the quality of education, popularize knowledge, and improve the quality of education. knowledge to all regions of the country is to contribute to the sustainable development of the country.

**Fifth**, strengthen support for information security and information security and promptly handle violations of information. Cybersecurity becomes extremely important in business operations during the 4.0 Revolution due to the development of telecommunications infrastructure as well as the requirements of enterprises to apply new production and business methods. New knowledge of security. With the increasingly sophisticated development of digital technology and the gradual shift to cloud computing, security holes also increase, leading to increasingly serious concerns about the risk of information attacks. thief.

This requires the information technology system to pay more attention to the safety and privacy of customers' information and to have new defenses to ensure network safety and security. backup database system and raise awareness of information security and safety throughout the system.

When the Internet is covered globally, along with billions of connected devices, serving in all aspects of social life, the concept of borders between countries in cyberspace has gradually been erased. blur. It is the connectivity, typically the IoT trend, that also brings enormous challenges when the scale of this activity has covered all areas of social life, directly affecting the ability to competitiveness of businesses. Therefore, it is required that businesses and managers take a more serious look at activities to ensure network information security in parallel with promoting information technology application activities. To ensure that information safety and security requirements are met, state management agencies need to actively and actively develop policies and guiding criteria to ensure the safety of systems. country information. At the same time, businesses closely coordinate with specialized state management agencies in coordination and response to ensure information security. The Government should soon have supportive mechanisms and policies to build human resources as well as promote investment activities in the field of information security and information security.

**Sixth**, the quality of human resources, especially high-quality information technology human resources directly serving businesses, has competitive costs. One of the factors that reduces the competitiveness of Vietnamese enterprises, first of all, the quality of human resources has not yet met the job requirements. management knowledge, skills, management experience. While regional and international businesses practice modern corporate governance, applying standards according to international practices, Vietnamese enterprises mainly manage family, based on experience. Corporate governance has not been transparent, not up to modern corporate governance standards. This can be seen from the fact that the number of Vietnamese enterprises listed on the stock market is small, less than 1% of enterprises are operating.

The phenomenon of brain drain is on the rise when many high-quality leadership, management and human resources teams have moved to work for foreign companies, increasing the cost of high-quality labor in Vietnam. reduce the competitiveness of enterprises. The number of Vietnamese enterprises each year increases a lot, in 2016 alone there were 110,000 newly registered enterprises,

requiring an increasing demand for high-quality human resources. Therefore, it is necessary to have a plan to build, train and develop the corporate governance team, serving businesses that can operate effectively until 2025.

With the advantages of a young, dynamic population and a good grasp of technology trends, the number one priority to focus on is the development of human resources.

Therefore, there should be mechanisms and policies to promote the development of information technology human resources quality assurance, focusing on rapidly increasing the proportion of highly qualified human resources towards international standards, adapting to rapid changes in technology and the development of the new industrial revolution. Only then, in the next 5 years, 10 years, Vietnam will have enough high-quality information technology human resources. This is also a solution that many developed countries like Japan have also implemented in practice that Vietnam can refer to.

**Seventh**, businesses need to proactively seize opportunities and limit challenges from the 4.0 Revolution to improve the competitiveness of businesses, the competitiveness of products, especially soon to change production methods. business, service methods on digital platforms, smart transactions. The breakthrough development in digitization and connectivity technology along with scientific and technological achievements in physics, biology and energy such as 3D printing, next-generation genetic technology, new material technology, technology, etc. nanotechnology, renewable energy technology, etc. change and create completely new possibilities in production and business, having profound impacts on economy, society and the competitiveness of enterprises. Global production systems will be connected to each other, connected with the power of advanced computing and analysis technology, with low-cost sensor systems through IoT connectivity methods, helping to cut costs. cost, respond quickly and accurately to customer needs, increase efficiency and flexibility for manufacturing companies. Vietnamese enterprises need to focus on promoting competitive advantages in technology in production, innovation in their organizational models and business methods. Specifically:

- Completing and building competitive strategies of enterprises in accordance with the context of the 4.0 Revolution, continuing to promote the competitive advantages of products and businesses on the basis of information technology, connecting thousands of materials and cloud computing in production and business management, improving service quality.

- Integration of digital technology: it is necessary to promote the development of production and business solutions based on digitization; integrated with sensor systems, control systems, communication networks for business and customer care; efficient storage and use of cloud-based big data; collect, analyze and process big data to generate new knowledge, support decision making and create competitive advantage; Analyze performance, evaluate and apply data gathered from machines and sensors to quickly make decisions to improve safety, operational efficiency, workflow, service and maintenance.

- Business model optimization: Businesses need to develop new skills for individuals as well as for the organization; participate and effectively use the intelligent supply chain created from the 4.0 Revolution, more closely linked to the demand of customer; building and using intelligent logistics processes in the global value chain network;

- Effective intellectual property management: There is a need for better solutions to manage intellectual property in the digital age, in line with new business models and cooperation models;

- Adapting to new tax models: Future 3D printing technology will enable production across countries and continents, blurring the concept of national borders in production, leading to demand for new customs regulations, value-added tax.

- Priority should be given to policies to support the development of small and medium-sized enterprises, a community that accounts for more than 97% of the total number of enterprises in Vietnam, contributing about 42% to GDP, 31% to total budget revenue. , contributing over 50% to the annual national economic growth rate and creating over 62% of Vietnam's total jobs, confidently and successfully entered the 4.0 Revolution such as: (i) Support to raise high technological capacity for SMEs to develop new products, advanced technologies, high technologies, key products and key products; development support, intellectual property protection, development; (ii) Supporting human resource development, business start-up training, innovative start-ups, modern corporate governance...; (iii) Establish an information system with a database that is always up-to-date and guaranteed to be publicly disclosed.

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# INNOVATIONS IN MECHANISM TO SELECT TALENTED CADRES FOR A PROSPEROUS VIETNAM IN INDUSTRY 4.0

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**Abstract:** Vietnam is at turning point to make breakthrough innovations in selection mechanism to have talented politicians and talented civil servants for a prosperous Vietnam in Industry 4.0. The paper analyses problems of current cadres selection mechanism and then offers three solutions to overcome the problems. First leaders must be selected from the most outstanding cadres. Second, select talented politicians through election. Third, national examinations to select talented civil servants.

**Keywords:** Selection mechanism, talented politicians, talented civil servants, election mechanism, national examination, Industry 4.0...

## 1. INTRODUCTION

Vietnam is accelerating industrialization and modernization to become a high-income developed country by 2045 in the context of the industrial revolution 4.0, where innovative talents are the main driving force to improve the competitiveness of the economy, talented leaders and national administrators with the spirit of innovation are enough to take the country off the road of innovation and progress. same era 4.0.

Along with that, the rapid changes in socio-economic development in our country today also pose unprecedented challenges in terms of politics, economy and society, which are difficult to solve effectively with energy. current strength of the current staff. The most noticeable things are the profound change in social awareness, the increasing needs and aspirations of the people, the increasing position and power of the citizens, the increasingly diverse workforce. The competition is getting fiercer and fiercer and therefore, it requires a team of talented staff with the heart and vision to bring our country to a fast development and advance with the 4.0 era.

However, reality shows that the quality of cadres and cadre work in our country currently has many limitations and inadequacies, not meeting the requirements of the times. General Secretary and President Nguyen Phu Trong at the 7th Plenum of the 12th Central Committee on May 7, 2018 asked that it be necessary to answer the question of why the past 20 years, especially in recent

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years, although the Party We have had many undertakings and policies on cadre work, which are agreed and supported by cadres, party members and people, but there are still many shortcomings in the implementation, and the effectiveness is still low. What is the cause, at what stage, at what level? (...) to have a large, breakthrough solution that is highly feasible [8].

We believe that the limitations and inadequacies in the recruitment of cadres in our country today is one of the main reasons and therefore it is necessary to have a breakthrough innovation in order to have a team of talented cadres with high quality. The spirit of innovation and creativity leads the country to develop rapidly, standing shoulder to shoulder with the powers of the five continents, advancing with the 4.0 era.

## **2. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES**

Theory and practice show that talented cadres play a fundamental and decisive role in the effectiveness and efficiency of the state's operations, and are an important factor creating breakthrough development in many countries. , especially in Confucian-influenced countries. There are many important studies that have shown that the leadership of the country is a particularly important issue, decisive for the development of the country. To develop the country requires high vision, intellectual content and professionalism. Therefore, it needs an elite, dynamic and creative leadership class. There are also studies that emphasize that an important premise for the country's development is to have a strong leadership, a visionary, capable of implementation and great commitment, and at the same time, to have a development plan. effective national development, able to coordinate economic activities and resources...

President Ho Chi Minh, right after the country gained independence, in the National Salvation Newspaper No. 411, on November 20, 1946 in the article "Finding talented people", he clearly stated "The country needs to be rebuilt. It is necessary to have talent." He also taught that "All success or failure is due to good or bad cadres".

Proofs of the importance of talented cadres to the development of the country can be easily found both in the history of the world and in the history of Vietnam.

Looking out to the world, the success stories of countries influenced by Confucianism through building and developing talented public human resources have all turned into dragons. Starting with Japan, the Japanese, thanks to their appreciation of talents, rose from the ashes after their disastrous defeat in World War II in 1945 to become a world superpower. In the second half of the twentieth century, Koreans, thanks to their ability to choose talented people to work in the country, wrote the story "Miracle of the Han River", Hong Kong and Taiwan also wrote their own stories of turning dragons. Since the first decade of the twenty-first century, the Chinese, thanks to their know-how, and the recruitment of overseas Chinese talents, quickly usurped Japan's position as the world's second largest economy in 2010 and is on the rise. the journey to realize the Chinese Dream in 1949.

Looking at the history of Vietnam, more than 5 centuries ago, the wise king Le Thanh Tong was very rightly aware that the good or bad mandarins decided the prosperity of the nation. With that awareness, he carried out reforms to build an elite contingent of mandarins to effectively

operate the state apparatus. Through the academic path of Confucianism, he has developed an elite group of mandarins who are capable and qualified to bring Dai Viet to a level on par with advanced countries in the region and the contemporary world. enough to “counterbalance” the Ming Dynasty of China. His reign was the culmination of Vietnam’s feudal system with many great achievements, maintaining its independence, expanding its borders, developing the country and flourishing in the fields of economy, politics, and culture society.

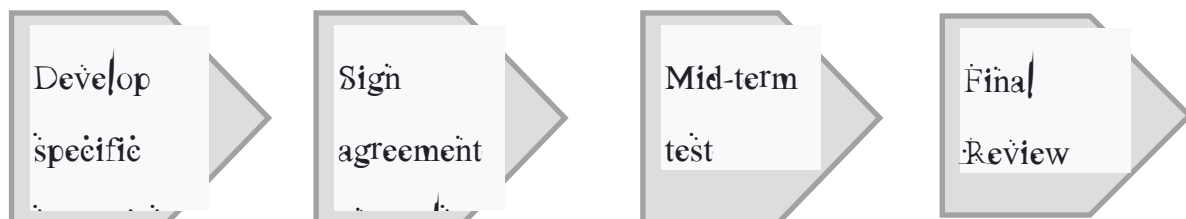
Regarding the issue of recruitment, there are quite a few studies showing that selection is one of the most important and fastest ways in improving the quality of cadres, determining the success or failure of an agency or organization. Staff selection, especially selection, promotion and appointment of leaders and managers is decisive for the development of the state apparatus. Doing this job well helps to prevent the less talented people, the opportunity to enter the public administration, and at the same time attracts the most talented and brightest people to join the contingent of cadres working in the country. On the contrary, if the selection mechanism is not tight enough to let too many people who are untalented, greedy for profit and opportunity enter the state apparatus, the bad consequences will be incalculable. suffer the consequences [7, p.42].

However, this is not easy, expensive and limited in quantity, especially for developing countries, because developing countries often do not have enough resources to recruit talented staff. Therefore, the important issue to clearly define is where to break through, how to do it?

### 3. PROPOSING A MECHANISM TO SELECT TALENTED STAFF TO MEET THE REQUIREMENTS OF THE 4.0 ERA

#### 3.1. Clear evaluation mechanism to screen weak staff

It is necessary to quickly develop and apply a clear evaluation mechanism to, on the one hand, eliminate the number of cadres who “steal umbrellas, steal them back”, on the other hand, to select talented people to act as leaders and managers. in the State apparatus. For example, it is possible to apply the mechanism of entering into an agreement in the performance of duties for heads of agencies and organizations with heads of higher-level management agencies. For example, heads of ministries, branches and chairmen of People’s Committees of provinces and cities sign results agreements with the Prime Minister, agreeing on specific goals and results, measuring scales and methods of measuring goals, results. results as well as a specific plan to complete with the Process as shown in Figure 1.



**Figure 1. The 4-step process of the Agreement Contracting Mechanism**

In step 1, the head of the agency or organization develops a strategy, defines the goals and makes a specific plan to achieve the goal. In step 2, sign an agreement with the superior, agree on specific goals, results, scale and measure of goals, results as well as a specific plan to complete. Objectives need to be quantified, concretized with specific measurable terms... In step 3, mid-

term review, check progress, achieved results against the plan and target goals develop and discuss an enhanced plan to accomplish established goals. In step 4, evaluate the results, the level of achievement of the goal and make an evaluation decision.

Establishing a professional council to help the head in the assessment and inspection. The Council consists of elected representatives (the National Assembly or the People's Council) with expertise, experts and scientists with high prestige. This council is only established when it is time to evaluate and examine and then disband.

Evaluation results are used as a basis for promotion or dismissal of heads of subordinate agencies. Agencies and units that achieve excellent results and exceed targets will be rewarded, promoted to higher positions and vice versa, dismissed from positions for leaders with poor results, not achieving. minimum target.

The evaluation can be carried out twice a term and the results will be publicized on the mass media for the people to follow and supervise. Display the results graphically with eye-catching colors and vivid visuals so that officials and people can clearly see the current status of each agency, whether it is developing or falling behind compared to the previous period on each indicator and criterion. ...

Thus, the heads of agencies and units who are not strong enough or talented enough to shoulder the task are forced to stand aside whether they like it or not, voluntarily withdrawing from their position of honor to make way for talented people. . Those who are weak in expertise and morals do not dare to run for power for fear of being eliminated.

### **3.2. Open competition mechanism in the selection of national leaders**

Politicians are the most senior and most important human resources [1], the core part of the political system, those who guide the way and lead the Party and the country. Their tasks are to develop the program, guidelines, to plan the lines and strategies of the Party, and the policies and laws of the State. They hold high-ranking positions in the Party, State, Government...

Good leadership is an essential capacity of politicians, requiring them not only to have political vision, vision and capacity to operate locally and nationally, but also to have vision and capacity to operate at the regional level. and global. They need to be good at foreign languages, especially English, proficient in international negotiation and presentation skills to cooperate and work effectively with international organizations and countries to bring the best benefits to the country. ...

Talented politicians need to have essential qualities such as the spirit of national development, innovation, burning national aspirations, pain and responsibility to the people, dare to think, dare to do, dare to take breakthrough actions, courageously pioneering in the flow of the times, leading the people, the country develops according to the innovation trajectory. They need to have strong political will and not be corrupted by temptations and negatives from the negative side of the market mechanism and international integration, they must be clean, able to attract and attract the masses.

Open competition is the right mechanism for selecting talented politicians. All talented and virtuous party members who meet the prescribed criteria can participate in the election competition to take up important leadership positions in the Party and the public administration. Step 1. Candidates need to pass the selection committee to run for election in the Party. Step 2. Candidates

compete in the Party to select the best candidates. Step 3. The best candidates compete against each other for the people to choose. First of all, run for election to select members of the Central Committee of the Party, because this is the key door to join the contingent of strategic-level cadres, the leadership team of the Party and the country, and decide the country's destiny.

The election mechanism helps to screen personnel because the candidates themselves have screened themselves, they must be really capable, talented and have a healthy personal life to dare to run for election [4] and thus, prevent them from running for office. prevent those who pretend to be talented, opportunistic, greedy for profit, from entering the leadership of the Party and State. At the same time, to overcome cronyism and negativity in the selection of leaders in our country today. In a way, it also helps the leaders with integrity who have the authority to appoint them to avoid the awkward position of being entrusted and asked for.

Moreover, in order to create the source of the brightest talented politicians, the Party needs to actively seek out talented people in different fields to invite them to join the Party. They must be people who are judged to be intelligent, have outstanding leadership capacity, outstanding management skills, have achieved many practical achievements and have been recognized by society and the public. Building an open database of talented politicians, allowing all domestic people as well as overseas Vietnamese to register to participate if they meet the prescribed criteria.

### **3.3. Strict national examination mechanism in the selection of civil servants**

Civil servants are also a very important part, they are the operators of the state apparatus, they do not have the right to promulgate policies and laws, but they advise and advise politicians, they participate in the construction of the political system. policies and ensure that policies and laws are implemented in practice.

Civil servants play an important role because when there are correct lines and policies, the capacity and quality of civil servants play a decisive role, not only determining the success of the lines and policies but also deciding the close relationship between the Party, the State and the people. Even if there are good laws and policies, but the civil servants do not implement them well, the policies and laws will be difficult to come to life, and be honestly, objectively and effectively enforced. What's more, laws and policies in developing countries like ours are often poor and lax, so the discretion of the enforcer is great, good or bad depending largely on the contingent of public officials exam.

That's why bad civil servants do as much damage as bad politicians, and the people suffer the consequences first. The fact that civil servants deliberately make it difficult to ask for money, although the amount may not be as large as that of corrupt politicians, due to direct and daily contact with the people, it is easy to cause frustration and negative psychology. , reducing trust in the public administration, if it is repeated every day, it is easy to form in people the mentality that every time they have a job with the public agency, they have to use money and civil servants have the mentality that they have to have money. just got the job done quickly.

The essential capacity of civil servants is to be good at administrative management, not only good at speaking politics and speaking resolutions, but not good at professional skills, not good at operating, organizing and implementing, lacking in practical capacity. see off. Civil servants not only must have a strong grasp of policies and laws in their respective fields, but also need to be

able to quickly and effectively apply and apply legal policies to handle many problems arising in life, which is very diverse. rich, lively and rapidly changing nowadays.

The essential quality of civil servants is the spirit of serving people and businesses. Civil servants must be professional and have a sense of responsibility because it would be a disaster when the contingent of civil servants was unprofessional and irresponsible. Even when responsible but not professional or professional but irresponsible, the consequences can be unpredictable. They also need integrity, not being corrupted by temptations and negativity from the negative side of the market mechanism and international integration.

The mechanism for selecting talented civil servants is a strict, competitive and public national entrance exam. This selection mechanism allows anyone to participate if they meet the criteria and the test results are the only criteria for admission. The time and place of the exam are decided on the basis of creating the most convenience for the candidate. Information about the competition (cost, number of jobs, etc.) is published in a long enough time so that many people know and candidates have enough time to prepare thoroughly. Transparency about qualification standards, how and when the best candidates are selected...

This mechanism not only selects the best individuals, but also makes those who pass rigorous and competitive exams feel legitimacy, pride in their work, and therefore, more love and respect. more respectful and responsible for their work. At the same time, this mechanism prevents those who pretend to be talented, greedy for fame and gain, and have the opportunity to enter the public apparatus and thus, avoid the vicious circle of “smiling cows and horses” that damage reputation and destroy energy. power of the public apparatus. There should be a regulation on the minimum percentage of leading and managerial civil servants, and certain titles and positions selected from this mechanism. First of all, the entrance exam is for leading and managerial civil servants with a position allowance coefficient of 0.6 or more. Only conduct the entrance exam to select the chiefs and deputy heads selected by the chiefs.

#### **4. RESEARCH RESULTS AND DISCUSSION**

The reality shows that the contingent of cadres in our country today is large but not strong, many leaders and managers have weak leadership and management capacity. The mechanism for using and evaluating leaders and managers is not enough to screen those leaders and managers with bad moral qualities, the evaluation is still “blind”, so general, so it lacks a basis. for people or organizations and supervisory agencies to perform their duties and responsibilities. Therefore, mistakes and shortcomings of leaders and managers are slowly discovered. Even some cadres holding important positions had poor performance results, allowing many mistakes to happen but still remained in place.

The renewal of the selection work to quickly improve the quality of the staff to meet the requirements of the times is inevitable. The reality shows that the cadre work in our country in the past time has not met the requirements, depending on the application of the subjective will of the recruits, they are not under competitive pressure and therefore, instead of recruiting choosing good officials, appointing talented people as leaders and managers, people often choose family members, people with money or close friends regardless of talent or not, as it is concluded that

“First descendants, second money bad, three relationships” [2] and so, in many places “both of them are officials”. The phenomenon of “ripe” cadres is many, with limited capacity but still holding leadership and management positions, many leaders work for 2 terms but have no significant achievements, slowing down the development process. development of the country.

Also because of letting too many fake talent, greed for fame and opportunity, and lack of effective screening mechanism, the current public office is, to some extent, seen as a place to share more benefits. is a place with strict discipline as a position worthy of honor [5]. Corruption, group interests, alienation, metamorphosis, and degradation exist among officials at all levels, even at very high levels, especially, the phenomenon of “self-transformation” has complicated and unpredictable developments. Our Party had to warn that the deterioration of political ideology, morality, lifestyle, “self-evolution”, “self-transformation” of cadres and party members in the past and present is threatening the existence of the Party. regime death. Indeed, the selection and promotion based on friendship and bribery instead of on talent and work performance is seriously damaging the capacity and prestige of the state apparatus, corroding the trust of the state apparatus. people to the Party and State.

But in the chaos with so many difficult problems of both the staff as well as the cadre work in our country today, where should we break through and how to do it? We believe that it is necessary to start from renovating the recruitment work and break through the selection of national leaders and civil servants. Because, leading the country is an important issue, related to the survival, prosperity and decline of an entire country and therefore, the leadership position must be given to the most talented person. The mind of a family member or close friend is incompetent. A good leader is the locomotive for the country’s development, a bad leader will hinder talented people and hinder the development of the country. Therefore, the leadership position is determined to only be given to the best people regardless of whether they are descendants of their fathers or not. Children and grandchildren must also have excellent ability to be promoted as a leader. Children of ordinary people who have the ability, know how to try, constantly strive, make every effort to achieve excellence, are also promoted to worthy leadership positions.

Accordingly, it is necessary to implement an open competition mechanism in the selection of national leaders, and a strict national examination mechanism in the selection of civil servants. Thus, promotion opportunities are available to everyone, everyone has the opportunity to compete fairly to succeed, but only the best are selected and given the best conditions to succeed. Once the individual’s talents, efforts and contributions are rewarded with worthy results, they will strongly encourage and motivate individuals to try their best, constantly improve themselves, and maximize their talents. ability to achieve excellence, create a career. Individuals will be motivated to work beyond their abilities, if individuals move and strive continuously, the society will develop continuously. Human intelligence, when opened, can do extraordinary things.

## **5. CONCLUSION**

Cadres are the image, the determining factor of the success or failure of the state apparatus, the prosperity and decline of the country. Strict control of input quality not only helps to prevent

the untalented, greedy for profit, from the opportunity to enter the public apparatus, and at the same time attracts the most talented and brightest people to work in the country.

The recruitment of cadres in our country today requires breakthrough innovations, first of all, renewing the work of selecting talented politicians and talented civil servants to have a talented cadre with a spirit of innovation. innovative, conscientious, and visionary to bring our country to a rapid development, following the innovation trajectory, advancing with the 4.0 era. Being good at leading and imbued with the spirit of national development, the spirit of innovation is an essential ability and quality of a talented politician. Open competition is the right mechanism for selecting talented politicians. Good administrative management and instilling the spirit of serving people and businesses are essential competencies and qualities of talented civil servants. The rigorous national examination is the right mechanism to select talented civil servants.

We follow the one-party leadership regime, so there are great advantages for breakthrough development. With the unified leadership of the Party, we can consistently implement the national development strategy, quickly mobilize and focus resources on priority goals for national development... However, these advantages will only promote well when we have a team of talented, dedicated and visionary leaders. Otherwise, it will destroy or slow down the development of the country. Therefore, the selection of leading cadres in our country must be even more strict and strict.

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# THE TRANSFORMATION OF VIETNAM'S AGRICULTURAL STRUCTURE ON SUSTAINABLE DEVELOPMENT

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**Abstract:** *In a market economy, the change in the rate of production scale and output value among the agricultural sub-sectors in a certain direction is often aimed at the best response to market demand and achieving maximum economic efficiency. The results of agricultural economic restructuring are reflected in the degree of adaptation of the agricultural sector itself to the market, in the competitiveness of agricultural products in the domestic and international market; reflected in the growth, its contribution to the economy and the long-term sustainability of this economic sector. The economic restructuring of the agricultural sector towards efficiency and sustainability is the path of development that many countries choose in this era. This article analyzes the current status of the agricultural sector restructuring in Vietnam, which proposes a basic proposal to obtain the goal of restructuring Vietnam's agriculture towards sustainable development in the upcoming period.*

**Keywords:** *restructuring agriculture, sustainable development, VietNam*

## 1. RATIONALE

**In fact**, agricultural production (agricultural production) has not had a breakthrough, mainly small production with low efficiency. The speed of economic restructuring of Vietnam's agricultural sector is still slow and has not fully exploited the available potential and advantages. Along with that, production is not completely attached to the market; productivity and quality of agricultural products are low and competitiveness is weak. In the face of the need for agricultural production to meet the rapidly increasing needs of the people with better quality, safer and under intense competition pressure when Vietnam integrates deeper into the world economy, especially after the establishment of the ASEAN Economic Community (AEC) came into operation, the economic restructuring of Vietnam's agricultural sector has become more urgent than ever. Since then, the Resolution of the XII Congress of the Communist Party of Vietnam has identified the tasks in the next 5 years as: "Continue to effectively implement the overall Project to restructure the economy and restructure industries, specifically, agricultural restructuring associates with building a new countryside, planning reform, organizing agricultural production in the direction of large-scale, international competitiveness, achieving high efficiency, bringing higher income for farmers; modernizing agriculture, and developing hi-tech agriculture towards sustainable development".

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In order to solving this problem, it is necessary to have basic research on theory, research practical experience, and have to evaluate on a scientific basis of the current state of organizations and economic activities nationwide. As a result, the study on “The economic restructuring of the agricultural sector towards sustainable development in Vietnam today” has an important role in the economic development strategy of Vietnam.

## 2. RESEARCH OVERVIEW

Many studies on this topic have been carried out in different countries, especially countries with potential for agricultural development. In response to the requirement of agricultural restructuring towards sustainable development, Adel El - Beltagy et al (2009) in Egypt’s strategy for sustainable agricultural development proposed an argument considering the following edges: sustainable use of agricultural natural resources; improving agricultural productivity; enhancing the competitiveness of domestic agricultural products and foreign markets; improving the environment of agricultural investment; upgrading livelihoods for rural people. Undoubtedly, diversified investment is required to achieve strategic goals. Meanwhile, Hualou Long and Yansui Liu (2016) emphasized the role of rural restructuring in China, focusing on spatial restructuring, economic restructuring, social restructuring and the main challenges to the rural sector, whether at the local, regional, national or international level.

The environmental pillar appears to be studied the most of the three pillars regarding sustainable development. The growing community’s sensitivity to ecological problems has created conditions and opportunities for researchers to discuss and analyze (Gaviglio.A et al, 2016). In addition, the environment is related to the management and conservation of natural resources, such as soil, water, air, energy, and biodiversity (habitat, biological resources). (MPRA, 2005). To assess the environmental pillar of sustainability in terms of both quality and quantity, MPRA has used the SAFE model in its study in 2005. In addition, agriculture is an industry that is affected directly and strongly by climate change. Agovino et al. (2018) demonstrated an inverse relationship between climate change and sustainable development in the agricultural sector when conducting analysis and testing for 28 European countries.

The economic pillar of sustainable agricultural development is reflected in the prosperity of the farming community, the agro-ecosystems brought about by agriculture (MPRA, 2005; Latruffe et al., 2016). Economic changes are reflected through input and output prices; Quantity; public support and regulation. (Latruffe et al., 2016). The economic pillar is also one of the conditions that help realize social sustainability.

The social pillar is shown in the current agricultural sustainable development, when society acknowledges that protecting the safety of its culture and traditions makes a great contribution to the agricultural sector (Gaviglio et al. partner, 2014a). However, since required observations, opinions or data indicators are difficult to investigate, it has become the reason to answer why there are very few studies to evaluate the sustainability of the social pillars. In fact, the social sustainability assessment of humans is classified into two categories: (1) social sustainability at the farm community level is reflected in three factors: education, working conditions and quality of life; (2) social sustainability at the social level manifested by multi-function (quality of rural areas, contribution of jobs and ecological services), agricultural reality, and quality of products (Latruffe et al., 2016).

## Current state of agricultural restructuring towards sustainable development in Vietnam

**3. INTRODUCTION TO VIETNAMESE AGRICULTURE**

From 2011 to 2020, the agricultural sector's GDP tends to increase from VND 413,368 billion in 2011 to VND 524,326 billion in 2020. The average agricultural growth rate in this period reached 2.85% (Source: Vietnam Statistical Yearbook, 2020). The general trend in the growth rate of the agricultural sector in this period almost tends to decrease because after joining the WTO in 2007 and signing bilateral free trade agreements (FTAs) with a number of countries, there is a negative impact on world market prices on materials and products (the price of materials increases rapidly, while the price of agricultural products does not increase or decrease, creating a detrimental pulling for agricultural production) and increase in barriers to trade in food safety and hygiene of countries on Vietnam's agricultural exports. Along with that, the heavy impact of natural disasters in 2016 made the agricultural growth this year only reach 1.36%. However, in 2018, there was a remarkable recovery in the agriculture, forestry and fishery sector with an increase of 3.76%. The growth rate in 2020 has slightly decreased at 2.68% due to the effects of drought and climate change (Source: Vietnam Statistical Yearbook, 2020).

**3.1. Restructuring Vietnam's agricultural sector****3.1.1. Restructuring of the agricultural sector according to the production value**

*Adjustment among three sub-groups: pure agriculture, forestry and fisheries*

In the period 2011 - 2020, the production value of the whole agricultural sector at constant 2010 prices tended to increase, from 543,960 billion VND in 2011 to 858.756 billion VND in 2020. In which, the net agricultural specialty increased from VND 393,283 billion to VND 603.721 billion (up 1.54 times), forestry increased by VND 17,407 billion to VND 44.710 billion (up 2.57 times), fisheries went up from VND 133,270 billion to 210.325 billion VND (up 1.58 times)

In terms of structure, in the period 2011 - 2020, the net agricultural structure remained at a high level (over 72%), but it tended to decrease gradually until 2020 reaching 70.3%. Forestry and fisheries tended to increase slightly, however, forestry accounted for a small proportion of 5.2%; fishery had a tendency to decrease, accounting for 21,5% in 2020.

**Table 3.1: Production value and structure of majors in Vietnam's agriculture in the period 2011-2020 (at real price)**

Year	Pure agriculture		Forestry		Fishery		Total (billion dong)
	Production value (Billion dong)	Structure (%)	Production value (Billion dong)	Structure (%)	Production value (Billion dong)	Structure (%)	
2011	393.283	72,3	17.407	3,2	133.270	24,5	543.960
2012	495.592	77,6	30.840	3,3	121.936	19,1	638.368
2013	503.556	76,4	23.996	3,6	131.429	19,9	658.981
2014	540.513	77,6	28.200	4,0	128.256	18,4	696.969
2015	533.633	74,9	30.636	4,3	148.192	20,8	712.460

2016	548.183	74,6	33.802	4,6	152.845	20,8	734.830
2017	559.989	72,9	36.872	4,8	171.300	22,3	768.161
2018	580.998	71,4	40.686	5,0	192.039	23,6	813.723
2019	588.709	70,4	43.484	5,2	204.041	24,4	836.234
2020	603.721	70,3	44.710	5,2	210.325	21,5	858.756

Source: Vietnam Statistical Yearbook, 2011 – 2020

*The above situation shows that Vietnam's agriculture is still capable of pure agriculture, and has not yet exploited the natural advantages of forests, forest land, river, lake and sea water surface to strongly develop forestry and water specialties, and to make these majors become the main production of agriculture creating a rational and efficient structure of the entire industry. In fact, forestry is seen as a discipline that uses a lot of land funds but has not yet fully taken advantage of its value, and admittedly, the output value of forestry is still the lowest.*

### **3.1.2. Change in agricultural trade**

In the period 2011 - 2020, the export value of agricultural products increased continuously, from 14.45 tỷ USD in 2011 to 20.3 billion USD in 2020, the average growth rate of the whole period reached 7.9%, but not evenly (Source: Vietnam Statistical Yearbook, 2011-2020). Particularly in 2015, the speed of agricultural exports decreased due to the impact of the world economic recession, which reduced the prices of many key export products of Vietnam. Although the export growth rate has slowed down, agricultural products still play an important role in generating foreign currency income. The main export products of Vietnam such as rice, coffee, rubber, cashew, pepper, and fishery ... have not faced tariff barriers like before joining WTO, so they have strengthened their position and expanded in regional and global markets.

The year 2020 recorded a strong effort of import and export activities in the context of the domestic economy as the world is negatively affected by Covid-19 and global trade disruption. The impact of COVID-19 disrupted many agricultural supply chains, led to increased food prices, including rice prices. "In some countries, such as a sharp increase in food prices such as Argentina, which increased by 39%, Myanmar by 30%... this is a great disadvantage for these countries but an opportunity for exporting countries. food, agricultural products like Vietnam" ( mard.gov.vn).

For imports, Vietnam still depends on imports for input materials for agricultural production. "In 2020, imports of agricultural materials, such as animal feed and raw materials, decreased by 10.6%; fertilizer down 9.9%; pesticides and raw materials decreased by 25.6%. Importing plants and seeds from China, the US, the European Union (EU) and many other places face difficulties. Shortage of supply has increased prices of many domestic animal feeds" (kinhtevadubao.vn).

### **3.1.3. The trend of agricultural restructuring in a sustainable direction**

#### **Restructuring agriculture towards economic sustainability**

In the period of 2011 - 2020, Vietnam's Agriculture sector had an erratic growth rate and tended to decrease, from 2.8% in 2011 to 1.4% in 2016, which was also the lowest level ever. The percentage point contribution to the economic growth and the percentage point contribution to

the economic growth of the Agriculture sector has declined rapidly in recent times. In 2016, the percentage point contributed to the economy was only 0.22, which went down more than 50% compared to 2015 and more than 3 times compared to 2011; the ratio that contributed to economic growth was at 3.5% in 2016, a decrease of 60% compared to 2015 and a decrease of more than 4 times compared to 2011. This is a record low level in the past 30 years. The decline in the growth rate of the Agriculture sector has reduced the overall growth rate of the economy, in 2016, the growth rate of the economy was only 6.21% (did not reach the planned target of 6.7%) (Source: Vietnam Socio-Economic Report, 2016). However, in 2020, the agricultural sector has made more efforts and prosperity, reflected in the 2.68% increase in the whole economy. The agriculture, forestry and fishery sector has seen a remarkable recovery with an increase of 2.90% (higher than the growth rate of 1.36% in 2016) (Source: Vietnam Statistical Yearbook, 2020)

In the period 2011 - 2020, Vietnam's labor productivity was significantly improved, including in the agricultural sector. Agricultural labor productivity tends to increase from 16.97 million dong per person per year in 2011 to 44.3 million dong per person per year in 2020 (at constant 2010 prices). Although Labor productivity has improved, it is still low at the present, mainly because nearly two-thirds of the population is concentrated in rural areas. Average agricultural labor productivity only reached 23.55 million per person per year in the period from 2011 to 20120 (Source: Vietnam Statistical Yearbook, 2011-2020).

Regarding the efficiency of investment in the agricultural sector: measured by the ICOR coefficient. In the period 2011 – 2019, the average ratio was expected to reach 6.2. In general, the agricultural ICOR tends to increase, compared to the average of 5.58. With respect to the whole country and other economic sectors, the agricultural sector still has better investment efficiency (Nguyen Thi Ngoc Nga, 2019). Although the capital efficiency is relatively stable in this sector, it is not attractive enough to attract domestic and foreign private investors. Furthermore, the government has overcome the great difficulties of poor infrastructure, investment environment and poor supporting industries have been improved.

Regarding the contribution to agricultural growth: there were many factors including land, labor and total factor productivity (TFP). Under the pressure of industrialization, urbanization, international economic integration and climate change, gradually critical capital and labor factors, the acceleration of transfer and application of science and technology in agriculture will play a key role in improving investment productivity and efficiency. In the past period, the TFP growth in the agricultural sector reached 5.5%, which is the highest among contributing factors. The contribution of this factor to the growth of the agricultural sector also amounted to 124.9%, demonstrating the effectiveness of new farming methods, new production, and technology applied in the agricultural sector (Stephen Ayerst, Loren Brandt, Diego Restuccia, 2018)

### **Restructuring agriculture towards social sustainability**

Firstly, considering the restructuring of sectors in the Vietnamese economy, it shows that the proportion of labor in agriculture, forestry and fishery has decreased continuously from 48.39% in 2011 to 33.03% in 2020. Over the past 10 years, the job creation rate in industry, construction and service sectors has increased. This trend is consistent with the theory and observation that the industrial and construction sectors are capable of creating jobs faster than the service sector.

**Table 3.2: Number and ratio of employees working in the agriculture, industry- construction and service sector of Vietnam in the period from 2011 to 2020**

Year	Agriculture		Industry - Construction		Service	
	Number (thousand people)	Rate (%)	Number (thousand people)	Rate (%)	Number (thousand people)	Rate (%)
2011	24362,9	48,39	10718,8	21,29	15270,3	30,33
2012	24357,2	47,37	10896,4	21,19	16168,8	31,44
2013	24399,3	46,73	11086	21,23	16722,5	32,03
2014	24408,7	46,28	11229	21,29	17106,8	32,43
2015	23259,1	44,02	12018	22,74	17562,9	33,24
2016	22315,2	41,86	13199	24,76	17788,6	33,37
2017	21564,8	40,16	14022,1	26,11	18116,5	33,73
2018	20419,8	37,6	14785,4	27,2	19077,3	35,2
2019	18831,4	34,5	18237,8	33,4	17590	32,1
2020	17724,6	33,03	16508,7	30,83	19376,3	36,14

Source: Vietnam Statistical Yearbook, 2011 – 2020

It is forecasted that by 2020, the agricultural sector would lack 3.2 million trained workers. Currently, Vietnam is short of highly qualified workers and professional skills to meet the high technology application agriculture in the 4.0 period. In the context of current deep international integration and with 70% of the population still living on agricultural production, improving the quality of human resources for rural areas is an urgent requirement (source: .molisa .gov.vn)

### Poverty reduction and Income

The poverty rate in Vietnam from 2011 to 2020 tended to decrease from 12.6% in 2011, to 2,23% in 2020 (According to the poverty line of the Government). This year's residential life is generally stable. It is agricultural income that tends to increase from VND 289.8 thousand per person per month in 2010 to VND 476 thousand per person per month in 2020 (Source: Vietnam Statistical Yearbook, 2020). According to the Report on Household Living Standards (2020), in the period 2010 - 2020, pure agriculture was the major with the largest structure in the total income of the agricultural sector (on average over 80%). The remaining two majors with a lower income structure were forestry and fisheries (average 3.55 and 12.12, respectively).

The rural financial market comprises several institutions, of which the Bank for Agriculture and Rural Development of Vietnam (VBARD) and the Vietnam Bank for Social Policy (VBSP) have leading positions, representing 66% of rural credit sources. Although the cooperative banks of People's Credit Funds (PCFs) and other private financial institutions have been established, they have so far not played a significant role in rural finance. This fact limits access to formal banking services in rural areas and high interest rates. Lack of collateral also limits access to credit for smallholder farmers. As a result, half of rural households still cannot access banking services and informal credit remains the most important source of credit in rural areas.

Besides, the rural transport system has been gradually built synchronously, forming socio-economic infrastructure serving the construction of sustainable agriculture, such as road systems, irrigation systems, electrical systems, information systems, educational and health facility systems, etc.

### **Restructuring agriculture towards environmental sustainability**

In recent years, our country's agricultural sector has developed towards commodity production, contributing to improving the lives of farmers. However, the abuse of fertilizers, plant protection drugs (plant protection) and growth stimulants to increase crop yields and yields; and the incomplete treatment of livestock wastes and aquaculture wastewater have increased the level of environmental pollution, adversely affecting the public health as well as the sustainable development of the industry.

Climate change and agricultural land pollution. The degree of climate change in recent years has happened rapidly, and saline intrusion in the Mekong Delta is becoming more and more complicated. The hot weather in the North is not favorable for the development of rice. In particular, disease outbreaks in livestock and poultry can infect humans. The protection and prevention are increasingly difficult due to the emergence of new types; Vietnamese agricultural production for a long time has used too much chemical fertilizer, making soil fertility decline. A large amount of nitrogen and phosphorus has been washed away, and water is polluted organically. In fact, the sharp increase in nitrite made the water and soil environment deteriorate. In addition, the arbitrary use of chemical fertilizers, pesticides, herbicides and growth stimulants has shown signs of exceeding the permissible limits of the ecological environment, leading to soil degradation and source pollution of water and harmful to human health. "Along with water pollution, air pollution, soil pollution due to excessive use of fertilizers and pesticides is also an alarming problem today. The improper use of fertilizers in agricultural production is not only ineffective but also seriously affects the soil environment. The absorption capacity of plants with fertilizers and pesticides is still limited, only reaching 45-50%" (quochoi.vn)

## **3.2. Evaluation of research results on agricultural restructuring according to the trend of sustainable development**

### **3.2.1 .Achievements**

In general, innovative mechanisms and policies have brought a new vitality to the agricultural sector (including agriculture, forestry and fisheries). The agricultural and rural economic structure has undergone a shift in the direction of reducing the proportion of agricultural production value and increasing the value of industrial production and services. This is consistent with the requirement of economic restructuring toward industrialization and modernization.

The growth rate of agricultural production was maintained. The rural industry has been focused, gradually restoring traditional handicraft villages, small industrial clusters in craft villages, developed new craft villages, especially the development of processing industries associated with raw material areas. In addition, services, trade, credit, and agricultural techniques have also been strongly developed in many rural areas.

Agricultural restructuring has achieved initial success. The agricultural restructuring program is implemented on the basis of promoting the advantages of the whole country and each locality in association with the domestic and export markets.

The agricultural production structure has initially changed towards commodity production and has gradually erased the situation of monoculture of food crops. The acreage structure of crops has had positive changes in the direction of improving economic efficiency, especially trees for export. In fact, exported products in the agricultural sector have established a foothold in the

international market. The rapidly increasing value of aquaculture production is a positive sign in the restructuring of agriculture

Restructuring economic regions has been adjusted step by step towards promoting comparative advantages of each region, forming a number of key regions, driving force regions and specialized agricultural production areas (plant specialization, pet, etc) making an important contribution to the growth of the economy. However, the combination and complementarity between regions are still weak, so the difference in respect to development speed among regions, especially between urban and rural areas tends to increase.

### **3.2.2. Limitations**

*Initially*, the introduction of scientific and technological progress into the agricultural and rural economic development is still slow. Although elements of commodity agriculture appear, from the perspective of economic efficiency, it is still at a low level. Science and technology in agriculture are both lacking and outdated. Social investment in agriculture is low, although some large firms have begun to turn to agriculture, generally, there is still very little with only a few percent. Moreover, foreign investment in agriculture is negligible.

According to World Bank report (Worldbank, 2016), the productivity of Vietnam's agricultural labor force is still relatively low. The main reason is that rice occupies a dominant position and Vietnam reserves the best land and is best irrigated for mulch rice production. The increased value of rice from rice production is low and the water productivity of the irrigation system for rice is also low. Facing that fact, in recent years, Vietnam's agricultural sector has made many efforts to improve its labor productivity of the agricultural sector. First of all, for households moving from pure agriculture to working as hired labor combined with business, the level of welfare is much higher than those who only convert to hired labor. This reflects the labor market, especially in the underdeveloped rural areas and many opportunities to promote the development of this market.

*Secondly*, the efficiency of capital use is not high, investment in underdeveloped areas is still mainly aimed at hunger eradication and poverty reduction rather than focusing on market targets - open, therefore, it still does not take advantage of potential and strengths of localities. Additionally, the investment in the agricultural, forestry and fishery processing industry has not been properly invested. The competitiveness of agricultural products on the market is not high. The consumption market for agricultural products is posing many pressing problems at present. The production value of the forestry sector makes up a small proportion and tends to decrease, despite the conditions of forestry development in our country being very huge.

*Thirdly*, economic restructuring often shifts the labor structure in rural areas, but in reality, the labor structure is not significantly changed. Labor in the agricultural and rural areas accounts for a large proportion of total social labor. The rate of working time of working-age workers in rural areas remains low. The movement of labor between regions and the spontaneous and seasonal trend of the labor movement from rural to urban areas has contributed to solving a part of underemployed and low-income labor. The workforce in the agricultural and rural areas has increased rapidly, leading to a labor surplus situation and serious underemployment. Meanwhile, the agricultural economic restructuring is still slow, and the labor market in the industrial and service sectors is underdeveloped. Hence, they have not attracted many workers. In addition, the technical level of the workforce in the agricultural and rural areas remains low.

*Fourthly*, there is a shortage of infrastructure in rural areas. Although Vietnam has made impressive progress in infrastructure development, more than 90% of the rural population now has access to electricity and more than 98.5% to roads. However, rapid economic growth has resulted in serious infrastructure bottlenecks.

*Fifthly*, the use of too much fertilizer, especially nitrogenous fertilizers in crops, leads to excess nitrate (NO<sub>3</sub>) and harms the health of consumers. Vietnam has about 26 million hectares of agricultural land with the average annual demand for fertilizer of about 10 million tons, of which nearly 20% is nitrogenous fertilizers. To improve crop yields, farmers increased fertilizer 2-3 times, even 5-7 times the need, resulting in excess nitrates in fruits and vegetables. According to the United Nations Food and Agriculture Organization, crops use only about 40-50% of the fertilizer, the rest is washed away or persisted on plant parts (vnexpress.net)

### **3.2.3. Reason for limitation**

Firstly, the orientation of agricultural economic restructuring in the direction of industrialization and modernization has been identified. Nevertheless, there is no synchronous and systematic program. Rural infrastructure planning has not met the needs of development, mechanization and modernization (field scale, in-field traffic). In fact, rural infrastructure still has many weaknesses, not facilitating the application of machines in production. In addition, income from agricultural production is low, and the average accumulated capital per rural household is uncertain. Therefore, the farmers' ability to accumulate production and purchase machinery and equipment is difficult. The State's organization, direction and management of agriculture have not yet been effective; and the implementation of policies remains limited.

Secondly, a number of mechanisms and policies to encourage agricultural and rural development have not been close to reality, and have not taken into account all the potential and advantages of each region and locality. For example, Credit policy for agriculture and rural areas needs to clarify the central role in the value chain of enterprises to apply appropriate lending modalities and provide financial products and services. Loans for agriculture do not necessarily require banks to give capital directly to farmers, but through businesses to advance input materials and goods, then deduct when purchasing products.

Thirdly, the direction of investment is still spreading so it is ineffective; Lack of synchronous infrastructure, seriously degraded transport system due to lack of funds for periodic maintenance.

Fourthly, the agricultural science team is crowded, but not strong. Qualified cadres to lead the research topics bringing high results, accounting for a low rate. Actually, there is a lack of good leading staff. Many fields of science and technology such as biotechnology lack highly qualified human resources. Hence, it has been slowly deployed. The material and technical conditions of research and training institutions are outdated and asynchronous, leading to the situation that training human resources for science and technology to serve agriculture and rural areas has not linked theory with reality. Moreover, there is a lack of in-depth studies per unit of product. There is also a lack of skilled workforce; the supply-demand relationship in the market, and the link between production, processing and consumption of agricultural products was not consistent, etc.

Fifthly, technical barriers lead to negative impacts on the environment when using unsustainable agricultural practices like pesticides that adversely affect the environment, health and nutrition of the people.



## CONCLUSION

*Vietnam's agriculture sector in recent years has had strong changes in both quality and quantity, making an important contribution to the economy. However, the growth model is not sustainable, mainly depends on capital and labor, while the contribution of the new TFP is at an average rate. The process of agricultural restructuring took place slowly. In the face of new pressures in the context of climate change, food security and international integration, the goal is to develop comprehensive, sustainable agriculture and rural area, and produce a large volume of export goods with high capability, high quality, high efficiency and high competitiveness. It is suggested that the government should build a new countryside with modern socio-economic infrastructure; reasonable agricultural and rural economic structure and reasonable forms of manufacturing organizations, connect agriculture with industrial and service development under planning; build a stable rural society, affluence in national cultural identity, improve intellectual level, and protect ecological environment.*

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# VIETNAM'S OPPORTUNITIES AND CHALLENGES IN KNOWLEDGE ECONOMY DEVELOPMENT IN THE CONTEXT OF FOURTH INDUSTRIAL REVOLUTION

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*Abstract: Today, knowledge has become a special asset and a decisive factor in the development of modern society. Along with that, the formation and development of the knowledge economy has attracted the attention of many world leaders and scientists. In Vietnam, the development and operation of the knowledge economy has been affirmed by the 13<sup>th</sup> Communist Party Congress of its importance and significance in association with the fourth industrial revolution in realizing the goal of socio-economic development, soon turning Vietnam into an industrialized country in the direction of modernity. The fourth industrial revolution (Industry 4.0) has been affecting all aspects of social life; in which, there are positive impacts promoting socio-economic development, but there are also negative impacts hindering the sustainable development of countries. The article mentioned the basic theoretical issues of knowledge economy; focused on analyzing the impacts of the Industry 4.0 on the socio-economic development of most countries in the world in the development of the knowledge economy (these impacts are considered on the specific aspects such as: economic impact, environmental impact, social impact). Besides, the article also pointed out opportunities and challenges that countries, including Vietnam, being able to seize and face in socio-economic development in the context of the Industry 4.0.*

*Keywords: Knowledge economy, industry 4.0, opportunities, challenges...*

## 1. INTRODUCTION

Knowledge - Based Economy is an economy based mainly on knowledge, on the basis of scientific and high technology development. The concept of the knowledge economy has been around since early 1960s, pioneered by Fritz Machlup and Peter Drucker. Over the past decades, there have been many studies aimed at defining and explaining the mechanism of this economy. In 1996, the Organization for Economic Cooperation and Development introduced an integrated concept of the knowledge economy: "A knowledge economy is an economy that increasingly depends on the production, distribution and use of knowledge and information". In 1999, the World Bank defined: "Knowledge economy is an economy that makes effective use of knowledge for economic and social development, including the acquisition and exploitation of global knowledge as well as adapt and create knowledge to be used for specific needs". In 2000, the Asia Pacific Economic Cooperation (APEC) forum introduced a newer and more specific concept: "A knowledge economy is an economy in which the production, distribution and using knowledge become a key driver of growth, wealth and employment creation across all sectors of the economy". In 2001, the Organi-

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zation for Economic Cooperation and Development (OECD) stated that “a knowledge economy is an economy based directly on the creation, distribution and use of knowledge and information”.

Thus, although approached from different angles, the nature of the knowledge economy is still the leading decisive role of knowledge for economic development. In the knowledge economy, the production, distribution and use of knowledge plays a decisive role in economic and social development in order to create wealth and improve the quality of life. According to economic experts, the birth and development of the knowledge economy was an inevitable result of the higher level development of social productive forces. It is driven by the strong development of the modern advanced science - technology revolution, especially the Industry 4.0 with the rapid and breakthrough development of information technology. The knowledge economy has become a common development trend of the world economy, chosen by many countries as a development strategy, such as the US, Canada, Western Europe, Australia, Japan, Singapore - where elements of the knowledge economy are quite high and knowledge-based industries contribute over 40% of GDP. Specifically, according to the report of APEC special research group on the knowledge economy, the contribution rate of knowledge-based industries to GDP in Singapore was 57.9%, the US was 55.3%, Japan was 53%, Canada was 51% and Australia was 48%.[7]

Facing the strong development of technology and increasingly relying on technology, many Asian countries such as China, India, Malaysia, Thailand ... have been promoting the development of the knowledge economy. Sharing the same trend, Vietnam has been promoting the knowledge economy associated with the digital economy. In Vietnam, the concept of knowledge-based economy development has been mentioned and discussed by researchers, policy makers, managers... and viewed from different angles since early years of reform. In the trend of globalization and the context of the Industry 4.0, it is certain that economic growth based on natural resources and cheap labor will give way to an high technology, diversify and enhance added value based economy. Therefore, in order to continue to improve the potential, role and position of Vietnam in the international arena, the development of the knowledge economy is an inevitable trend, ensuring our country's rapid and sustainable development, Vietnam needs to identify the impacts of the Industry 4.0 to proactively and actively seize opportunities, repel challenges, and take advantage of this revolution's achievements in developing a knowledge-based economy in line with inevitable trend of times.

## **2. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES**

The knowledge economy and the fourth industrial revolution are topics that receive a lot of attention from scientists and managers. A number of works by foreign authors have been gathered and introduced by the Statistical Publishing House, Hanoi in the books: “Knowledge economy and action - experience of developed and developing countries”, published in 2000; “Knowledge economy, problems and solutions - experiences of developed and developing countries”, published in 2001. Featured in these books are the articles: “Knowledge economy” of Information technology advisor group to the Minister of IT submitted to the Government of New Zealand (August 1999); “What is the knowledge economy” World Development Report of the World Bank (1999); “Knowledge is an economic force that drives growth and change” by David S. Landes - W. Birian Arthur - Cansdis Stevens. Also in 2001, the National Political Publishing House, Hanoi

released two books by Chinese authors, namely: “The era of knowledge economy” by Qin Yan Zhuo and “Knowledge economy, new trend of society in the 21st century “ by Prof. Dr. Wu Gui Song. The above works have mentioned many issues of the knowledge economy such as: concept, role, typical manifestation, formation and development trend... recommendations for governments of developed countries to plan policies to increase knowledge, to create, to disseminate and to exploit knowledge for socio-economic development; For developing countries, the authors believe that it is necessary to develop reasonable strategies and policies to narrow the gap in knowledge compared to developed countries (absorption and use of human knowledge), avoiding the risk of falling further behind in knowledge in socio-economic development in these countries.

In his theoretical studies on the fourth industrial revolution, Klaus Schwab (2018) with the book “The Fourth Industrial Revolution”, translated and edited by the Ministry of Foreign Affairs, World Publishing House; After this work, Klaus Schwab (2019) continued to release “Shaping the fourth industrial revolution” translated by Nguyen Van and Thanh Thiep, World Publishing House. Polish author Janusz Kacprzyk (editor) (2018) has the work “Industry 4.0: The Revolution of the 21st Century”. The Summary of the Fourth Industrial Revolution of the Center for Information Technology Analysis (2016) was a highly generalized work.

Another important publication was the approximately 1,000-page work “Industrialization and modernization of Vietnam’s economy in the context of the fourth industrial revolution” by Pham Thuyen (2019). Nguyen Dac Hung, Phung The Dong (2018) published the book “Industrialization and modernization in Vietnam in the context of the fourth industrial revolution”. In the same year, Nguyen Dac Hung (2018) released the book “The Fourth Industrial Revolution and the problems for Vietnam”. Tran Thi Van Hoa (2018) together with her colleagues compiled the book “Industry 4.0 - problems for Vietnam’s socio-economic development and international integration”. Nguyen Thi Que Anh and Ngo Huy Cuong (editors) (2018) published “The Fourth Industrial Revolution and the problems posed to legal reform in Vietnam”. “The Fourth Industrial Revolution - Opportunities and Challenges for Vietnam” (2017) was the Proceedings of the Conference held at the Ho Chi Minh National Academy of Politics, which gathered 28 articles, provided a more comprehensive, in-depth look at the fourth industrial revolution. Luong Dinh Hai (2017) had “Scientific - technological revolution and its impact on people and society in Vietnam”.

Thus, building and operating the knowledge economy and the Industry 4.0 are topics have received much attention from domestic and foreign researchers. However, according to the author’s knowledge, this article is the first study that highlights the importance of the Industry 4.0’s impact on the development of the knowledge economy in our country. At the same time, the article also gives general recommendations to help the state plan and administer policies and propose some initial solutions to help Vietnam build and develop a knowledge economy facing the significant impacts of the Industry 4.0, which is constantly increasing.

### **3. RESEARCH METHODS**

As a narrow-form policy analysis, the subject is topical, and has never been studied before. To make this article, the research is first devoted to the synthesis of analytical and economic docu-

ments, thereby building an appropriate theoretical framework to propose reasonable policies. The theoretical basis used to build the policy framework is macro- and micro-economics, development economics, management theory, guidelines and policies of the Communist Party and the Vietnamese Government on the development of small and medium-sized enterprises and the national digital transformation policy. From the collected materials, conduct qualitative research, synthesize theories, analyze and summarize international experiences, from the point of view of dialectical materialism, using deduction to deduce the inevitable consequences, using comparison to make judgments, using induction to draw conclusions, then synthesizing them to propose recommendations and solutions. The data is collected from reliable sources, all figures are cited from official sources such as the Organization for Economic Cooperation and Development (OECD), the European Union, the General Statistics Office *and the Ministry of Science and Technology*.

## **4. RESEARCH RESULTS**

### **4.1. Impact of the Industry 4.0 on the economy and society**

#### **4.1.1. Overview of the Industry 4.0**

The term “Fourth Industrial Revolution” has been mentioned several times in academia over the past 75 years. But the concept of Industry 4.0 or smart factory was first introduced at the Hannover Industrial Fair in the Federal Republic of Germany in 2011. In 2013, the new “Industry 4.0” keyword began to gain widespread use from a German government report that used the phrase to refer to a high-tech strategy that computerized manufacturing without human involvement. At the 46th World Economic Forum (WEF), which was officially opened in the Swiss city of Davos-Klosters, with the theme “*The 4th Industrial Revolution*”, the executive chairman of the World Economic Forum gave a new definition, broader than the German concept of Industry 4.0. Humanity was on the verge of a new industrial revolution that could radically change the way we live and work and communicate to each other. The scale, scope, and complexity of this transition was unlike anything humanity has ever experienced. Specifically, this is “*a glossary of organizational technologies and concepts in the value chain*” associated with physical systems in cyberspace, the Internet of Things (IoT) and the Internet of services (IoS). Currently, Industry 4.0 has gone beyond the German project framework with the participation of many countries and has become an important part of the fourth industrial revolution.

The essence of the Fourth Industrial Revolution is based on digital technology platform and integrates all smart technologies to optimize production processes and methods; Emphasizing technologies that are and will be the greatest impact such as 3D printing, biotechnology, new material technology, automation technology, robotics, etc. The Fourth Industrial Revolution or Industry 4.0 is the current trend of automation and data exchange in manufacturing technology. It includes physical networks, the Internet of Things, and cloud computing. The Fourth Industrial Revolution is not only about smart and connected machines and systems, but is much broader in scope. Simultaneously are waves of further breakthroughs in fields ranging from coding gene sequence to nanotechnology, from renewable energies to quantum computing.

#### **4.1.2. Features of the Industry 4.0**

- Combination of virtual systems and entities

The ongoing Fourth Industrial Revolution, which has begun since the 2000s, characterized by a fusion, without boundaries between the fields of technology, physical, digital and biological. This is the trend of combining virtual and physical systems, Internet of Things (IoT) and Internet of Service (IoS) systems. This fourth industrial revolution has been changing the way of production and manufacturing. In “smart factories”, machines are connected to the Internet and linked together through a system that can visualize the entire production process by itself and make decisions that will gradually replace previous production lines. Thanks to the connectivity of billions of people around the world through mobile devices and access to large databases, information processing capabilities will be multiplied by technological breakthroughs in areas such as artificial intelligence, robotics, Internet of Things, self-driving cars, 3-D printing, nanotechnology, biotechnology, materials science, energy storage and quantum computing.

- The scale and speed of development

The pace of development of breakthroughs in this fourth industrial revolution is without precedent in history. If the previous industrial revolutions took place at an arithmetic progression (or linear), the growth rate of this fourth industrial revolution is exponential. The time since technology and innovation ideas were conceived, realized in laboratories to large-scale commercialization of new products on global scale were significantly shortened. Technological breakthroughs taking place in many of the areas mentioned above at a very rapid pace and interacting with each other are creating a world that is digitized, automated, and becoming more efficient and intelligent.

#### **4.1.3. Industry 4.0's impact on socio-economic development**

The Fourth Industrial Revolution has enormous economic, social, institutional and environmental impact at all different levels. These effects are very positive in the long term, but also create many correctional challenges in the short to medium term. Economically, the fourth industrial revolution has an impact on consumption, production, and prices; affects a number of economic groups. From a consumption and price perspective, everyone benefits from having access to a variety of new quality products and services at a lower cost. From a production perspective, in the long term, this revolution will have a very positive impact, but besides that, it is creating challenges in short to medium term in costs adjustment due to the uneven impact on different sectors: there are industries that will grow strongly and there are industries that will have to shrink significantly. Within each industry, including growth industries, the impact is also different between businesses, with the emergence and rapid growth of many businesses creating new technologies leading to the shrinking, even the elimination of of technologically backward enterprises.

- + Economic impact

Currently, Vietnam has many opportunities for development in the fields of manufacturing, services, agriculture, banking, finance... The development and application of new technological achievements will bring about economic growth for our country, directly contributing to improving socio-economic life in many fields. On the other hand, the application of digital technology has

been helping to create jobs for a number of new industries in Vietnam such as technology driving, housing rental services, online business... , thereby, actively contributing to the improvement of the quality and living standards of a group of employees. However, the application of digital technology and the robotic process will lead to serious job loss. Jobs that are at risk of being eliminated or drastically reduced include: repetitive work; transactions where employees don't need a degree, just based on standard processes like financial transactions...

According to the forecast of the International Labor Organization (2020), in the next 10 years, Vietnam will face the replacement of labor when applying digital technology, leading to a change in production model, business culture, organizational model... Up to 70% of jobs are at high risk (with a probability of being replaced over 70%), 18% at a medium risk (with a probability of being replaced from 30-70%) and 12% at a low risk (with a probability of being replaced less than 30%). This requires businesses to handle and adapt to this change [9]. It can be seen that the risk of labor in the agriculture, forestry and fisheries sector, processing and manufacturing industry... being replaced is high. These industries are creating a lot of jobs and contributing to economic growth in Vietnam, in which, the agriculture, 83.3% of jobs in forestry and fisheries sector are at high risk; 74.4% and 84.1% corresponding in processing industry and wholesale and retail.

This revolution also has the potential to disrupt the balance of the labor market. As robots and automation take the throne, the amount of redundant labor will increase. On the other hand, the gap between rich and poor will widen between those providing financial and intellectual capital and workers who depend on labor. In that view, the fourth industrial revolution might create a decrease in income for the population in developed countries when the demand for highly qualified human resources, while the demand for unskilled labor decrease sharply. Historically, previous industrial revolutions have also deepened social inequality, leading to a series of major economic and political upheavals including adjustments to taxes and social security.

In addition, the Industry 4.0 affects each employee himself, fundamentally changing the way of thinking and working of each person. However, besides making it easier and more convenient for workers, there is also the great danger that may degrade some of the quintessential human instincts, such as compassion and cooperation. In addition, the constant connection to mobile phones can isolate us from real social relationships, contemplative thinking and many other things associated with our real lives.

In the field of traditional agriculture, the risk of being replaced by automatic machines and equipment is comparatively high, as that of farming (about 13.7 million jobs); livestock (nearly 3.2 million jobs); gardening (1 million jobs); fishing and aquaculture (0.84 million jobs)... Some other industries will also be impacted by this revolution such as healthcare, education, retail, and transportation. This will cause unpredictable consequences for the economy and other social security issues [9].

#### + Impact on the environment

Environmental pollution and climate change are seriously affecting many aspects of socio-economic life. However, the Industry 4.0 has been having a positive impact in the short and long term thanks to technologies that save energy, environment friendly materials. New materials will

replace fossil materials - the cause of greenhouse gases. In addition, environmental monitoring technologies are also developing rapidly, and are also supported by the Internet of Things, helping to collect and process information continuously 24/7 in real time, for example, through means such as unmanned aerial vehicles connected by the Internet equipped with cameras and sensors capable of collecting the data information necessary for surveillance.

+ Impact on society

In recent decades, income inequality has tended to increase rapidly, with 1% of the richest holding as much wealth as the remaining 99%. But the Industry 4.0 further amplifies this trend due to the sharp increase in the yield of ideas: thanks to ideas related to technology and innovation, there have been many dollar billionaires in the world with age over 20 under 30, which is very different from the previous period [6]. The yield of skills, especially those that promote or complement the process of digitization and automation (by robots or by software - ie artificial intelligence capable of self-learning) also increased sharply. Meanwhile, traditional skills which used to play an important role in the previous period are being replaced by robots, so their profits have plummeted. The most affected group has been simple, low-skilled labor because it is easy to be replaced by robots. This is one of the main reasons for the increase in inequality globally, widening the gap in income and wealth between the unskilled or skilled workers that are easily replaced by robots which make up the vast majority of workers, and on the other hand, people with ideas or skills that complement the fast-paced automation and digitization process.

## **4.2. Opportunities and challenges of Vietnam in developing the knowledge economy in the context of the Industry 4.0**

### **4.2.1. Features and characteristics of the knowledge economy in the era of Industry 4.0**

Firstly, scientific knowledge permeates workers, people have a shift from manual labor to mental labor, muscle labor accounts for a small proportion and is replaced by intellectual labor, the contribution of knowledge to economic growth is increasing. Human scientific knowledge, human skills become the most direct and important productive force in society. Humans are still subjects of the knowledge economy, but there has been a qualitative change in human labor in the knowledge economy. Therefore, the most important requirement of the knowledge economy is scientific and technological knowledge - these factors come from people. Thus, it is clear that in order to develop a knowledge economy in Industry 4.0, the human issue is still the most important and decisive factor.

Secondly, in the knowledge economy, scientific knowledge is transformed into human labor tools as C. Marx once asserted: "nature does not manufacture machines, locomotives, railroads, telegraph, movable warp spooling machine... All these are organs of the human brain, created by human hands, are all the reified power of knowledge". However, in this Industry 4.0, it should be noted that scientific knowledge must be transformed into creative inventions, the core inventions of material production.

Thirdly, in the knowledge economy, scientific knowledge becomes a direct productive force when the factors of production force with people are closely linked, science permeates and all factors of the productive forces, from which the relations of production also take on new contents and properties. The most important and main property of the knowledge economy in Industry 4.0 is intellectual property. The biggest conflict of the knowledge economy in this revolution is also the



conflict over intellectual property. A country that owns many scientific inventions, its economy will grow and develop dramatically. Industry 4.0 will explode a struggle around the relationship of human intellectual property [3].

Obviously, Industry 4.0 manifests itself in the characteristics of the knowledge economy. This Industry 4.0 will have enormous effects on the knowledge economy of countries. It can accelerate the growth, development and sustainability of economies. But, at the same time, it will also make the economy quickly fall behind, lag behind and underdeveloped, if its rules are not properly recognized.

With the features and characteristics of the knowledge economy as analyzed above, in the current context, when building and developing a knowledge economy, Vietnam will have opportunities and face challenges at the same time.

#### ***4.2.2. In terms of opportunity***

In the current period, science and technology are always closely linked: science is the direct premise of technology and technology is the direct result of science. The Industry 4.0 fundamentally changes production methods and all aspects of social life, forming and developing the knowledge economy, digital economy, digital society, digital government... Today, with the rapid development of Industry 4.0, resources have shifted from tangible resources, which are means of production, to intangible resources, which are human knowledge, human intelligence, artificial intelligence, and technology. advanced, modern, digital technology, internet of things, information, big data, patents, inventions, technology solutions, copyrights, trademarks, brands, trade advantages, prestige in the market... Intangible resources are increasingly occupying a particularly important position and role, even playing a decisive role in the knowledge economy. The owner who owns invisible resources has the better chance of winning the competition, because when he owns the knowledge, human intelligence, artificial intelligence, modern advanced technology, digital technology etc, ... and applied in the production process, it will create dominant goods in the market with higher labor productivity, better product quality, better individual value, more competitive often wins out in competition, reaping maximum economic benefits. This is the driving force promoting the development of social production forces, the basis for a strong shift to in-depth production, increasing the productivity of total factors (TFP), quality, efficiency, and competitiveness of the economy. Therefore, the development of science - technology must be considered as the top national policy; must make a strong shift from applying and “imitating” existing technologies to technological innovation, development of new, advanced and modern technologies is a strategic breakthrough. Besides, it is necessary to have “Made by Vietnam” technology to create “Made by Vietnam” goods. Those requirements require perfecting the institution on intellectual property in the direction of encouraging innovation, developing science and technology, ensuring transparency and high reliability; intellectual property rights are effectively protected and enforced...

- Entities in the economy have conditions to absorb and apply technological advances and achievements of mankind, information technology, digital technology, control technology and automation first to improve high productivity and efficiency in all stages of social production.

- Helping Vietnam to access and absorb advanced and modern science and technology, gradually narrowing the gap and catching up with the leading countries in the region and the world

through absorbing, mastering and quick application to production and business, management of technological advances and achievements (including production and management methods) from Industry 4.0. For renewable energy, especially solar energy, bioenergy, Vietnam has advantages for these two types of energy because its cost is not too high. The energy restructuring will help Vietnam reduce environmental pressure and external dependence on hydropower, thermal power, oil and gas and nuclear power.

In the field of information technology, while social networking and mobile technology, analytics and cloud computing (SMAC) are new trend of the whole world, Vietnam has the opportunity to develop this field. With existing advantages such as relatively good and low-cost Internet infrastructure while high-configuration, low-cost mobile devices are becoming popular as well as the government's development encouragement, Vietnam has great potential for SMAC technology development. Another favorable factor is that Vietnam has important partners who are giant and experienced technology corporations like Microsoft in the process of consulting, building, and developing SMAC in general and cloud computing. This Industrial 4.0 is an opportunity for Vietnam to catch up with developed countries in the digital era. The application of the digital also allows us to accelerate the application of artificial intelligence in many industries, contributing to overcoming existing difficulties. The industries that need this application the most today are e-commerce, transportation, geological measurement, or environmental quality measurement.

- Industry 4.0 is accelerating the database system and means of information transmission, especially in the field of public services. The impacts take place in three directions (i) shifting from a management role to a service one; (ii) shifting to digitalization of public services and enhancing digital technology services; (iii) changes in nature and activities in the public service sector.

- Opportunity for many economic sectors to develop faster and develop new ones through application of advances and achievements in information technology, digital technology, control technology, biotechnology (ie in space industry, creative industry, entertainment industry, biological industry, defense industry, high-tech agriculture,...).

- Biotechnology, Industry 4.0 has a strong impact on productivity as well as quality of crops and livestock, thereby increasing added value in each agricultural product. Vietnam is considered to still have an advantage in the agriculture industry. If there are reforms in varieties and farming methods, it will create a clean agriculture with high quality products that are competitive in the world market.

- In the aspect of medical, many incurable diseases, especially cancer, are becoming global health problems, causing human losses, economic costs in treatment and prevention. Successful biotechnological research works in medicine and pharmacy, especially in drug production and disease diagnosis, are especially important for our country in the coming period.

#### ***4.2.3. In terms of challenge***

- Challenges in the field of job creation: with the expansion of application of achievements of information technology, control and automation, robotic systems with artificial intelligence will replace humans in many stages or in entire production lines, especially in labor-intensive industries. This is one of the biggest challenges, because Vietnam's labor restructuring over the past 20 years has been very slow and much slower than GDP restructuring. Our country's economy

today still relies heavily on low-cost labor-intensive industries. However, in the development trend of the knowledge economy, human resources with good expertise and creative capacity will be advantages. Moreover, the modern technologies that spark a new revolution in many industries in the world economy, such as 3D printing, robotics and automation use very few workers. These types of technologies will challenge the “mass production” model with “mass customization” and lower-cost automation. In the future, many workers in the country’s industries may be unemployed, such as textile and garment workers, assembling workers, this type of workers currently accounts for a significant proportion of the labor force of our country.

- Emerging industrial countries and many developing countries are all competing fiercely, looking for ways to attract and cooperate for investment, technology transfer, and quickly apply technological achievements from the Industry 4.0 to gain development advantages. There is great pressure on Vietnam in terms of alertness in integration, international cooperation, development of a market economy, especially the science and technology market, improvement in business investment environment, to attract the transfer and rapid application of scientific and technological achievements to economic development.

- The challenge of state governance is also one of the biggest challenges for our country. The industrialization and modernization of the country will face many difficulties if the reform of the economic structure and growth model proposed by the State in the past time was not successfully implemented. In addition, non-traditional security challenges such as transnational crimes, high-tech crimes, etc. will create great pressure if the State does not have enough technology and management skills to respond.

## 5. DISCUSSION AND CONCLUSION

In the coming time, in order for Vietnam to seize opportunities and overcome challenges upon the impact of the Fourth Industrial Revolution on the process of building and developing the knowledge economy, it is necessary to synchronously implement following solutions:

*Firstly, build and perfect* economic institutions favorable for the creation and use of knowledge. In which, perfecting the market economy institution is an urgent requirement, building and perfecting all kinds of markets: labor market, gray matter market. Because, favorable and transparent economic institutions allow the free flow of knowledge, technological innovation, and support for technology - information and communication. On the other hand, policies to encourage business owners to create and use knowledge are at the heart of the knowledge economy. Renovate mechanisms and policies, create a new legal framework suitable for the development of the knowledge economy. Mechanisms and policies must really encourage and force businesses to always innovate based on new technologies and quickly promote the birth of new businesses, especially those dealing in new products and technologies.

*Secondly,* there should be policies to attract resources for the development of the knowledge-based economy. Accordingly, expanding the investment mechanism in the form of public-private partnership to expand investment capital for science and technology; Actively applying the public-private partnership model will encourage businesses to participate more in innovation activities. It is necessary to test the “state owned, privately operated” model, also known as the “public investment, private governance”

model. Shifting from the model of using the state budget to co-financing, towards financial autonomy, the State places orders to research institutions and science and technology institutions. Vietnam needs to have a strategic transformation to promote research and development, innovative start-ups, applications combined with technology development in a number of new industries and fields. And we must do better the coordination between the State and society in science and technology development, better combine internal and external resources in science and technology development and innovation. Without boldly investing in science, technology and innovation, Vietnam would be in danger being trapped in the very pit of low labor productivity, low added value and middle income trap. In the context of limited resources from the state budget, public-private cooperation to invest in scientific and technological research and innovation is considered as one of the practical solutions.

*Thirdly*, training and fostering the development of high-quality human resources, intellectual labor resources, and raising people's knowledge. Focus on training scientific - technical staff and skilled workers, managers, entrepreneurs and especially need to develop this human resource with a reasonable structure to avoid "redundancy of teachers, shortage of workers" ... Education - training, science - technology should be considered as the top national policy and a breakthrough to meet the demand for high-quality human resources for the knowledge-based economy. The education and training system is an important condition for people to have the opportunity to study and research to improve their creative capacity, to share and to use knowledge.

*Fourthly*, strengthen the national science and technology capacity to be able to absorb, master and creatively apply the world's latest scientific and technological knowledge necessary for the development of the country, each step in creating technology specific to the country, building an advanced science - technology of Vietnam. In particular, it is necessary to pay attention to investment in building information infrastructure because this is a necessary condition to enhance the exchange, dissemination and processing of knowledge. Information technology has been widely applied in all fields and established multimedia information networks. Information becomes an important resource of the knowledge economy. The most important infrastructure of the knowledge economy is information, the organization of production becomes exceptionally flexible. With the information network, knowledge spread and widely disseminated, the information network becomes a borderless supply system of raw materials for the global production and division of labor system. In addition, it is necessary to renew the state management mechanism in science and technology in order to promote investment in scientific and technological research, creating a technological foundation for the development of the country in a modern direction and creating out the basic elements of the knowledge economy. Renovation of the mechanism must be directed at promoting science - technology to truly associate with production - business, science to penetrate into production - business practice to create wealth and new knowledge to serve directly to socio-economic development... Along with the investment in research (focusing on science - technology together with science - society and humanities), the promotion of application of advanced scientific - technological achievements into key stages and fields of the economy creating the ability to spread in the economy in the direction of modernity, also needs attention.

Industry 4.0 has been affecting all aspects and different levels of social life; in which, there are positive impacts promoting socio-economic development, however, there are also negative

impacts hindering the country's sustainable development. Therefore, Vietnam needs to be proactive and actively innovate in building and developing a knowledge-based economy to meet the requirements of state governance, in which, it must renew its cognitive thinking to see the role it plays. At the same time, the above solutions must be implemented synchronously to take advantage of the opportunities that this industrial revolution brings. In addition, it is necessary to clearly identify difficulties and challenges in order to take measures to repel them. To do this task well, we need to study to innovate mechanisms and policies, and to create a suitable legal framework for the development of the knowledge economy. To strengthen the national science - technology capacity to be able to absorb, master and creatively apply new scientific - technological knowledge. To develop high-quality labor resources, improving people's intellectual, and talents training. Strong investment in development of information technology infrastructure, promotion of application and development of information technology. Actively and proactively integrate into the world to take advantage of external resources and combine internal resources to catch up with the trend of advanced science and technology development. To develop a public-private partnership mechanism in scientific research activities to apply in production; to socialize the mobilization of resources for science and technology development.

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# **ECONOMIC DEVELOPMENT ASSOCIATED WITH ENVIRONMENTAL PROTECTION IN VIETNAM TODAY**

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**Abstract:** *Economic development has brought back many products that serve people, but at the same time it has led to the depletion of natural resources and waste products capable of polluting the environment. The more the economy develops, the more products are obtained, the more seriously the environment is also being degraded. The problem for us is that while developing the economy, the exploitation and use of natural resources must effectively protect the natural environment, within the permissible limits of the environment to ensure sustainable development. In order to achieve the goals on the state, it is necessary to promote its role in renovating thinking, innovating ways of doing things, strengthening policies, legal tools, organization, inspection, inspection and supervision of the process of economic management and management of environmental resources.*

**Keywords:** *Economy, economic development, economic growth, environment, environmental pollution, sustainable development.*

## **1. INTRODUCTION**

After more than 35 years of renovation, Vietnam has achieved great achievements in economic development and social development. For our country, economic development is of top importance not only due to the low starting point of economic, social, scientific, and technological but also to soon bring the country out of underdevelopment, against the risk of further economic lag and only fast-growing growth will create the premise, Conditions for solving social problems. Objectively, it can be seen that the growth rate of the economy is not commensurate with the potential and opportunities that the country has. Mainly economic growth in breadth, low quality of growth, limited efficiency of growth, and weak competitiveness of the economy. In addition, in the process of economic development, Vietnam is carrying environmental risks and challenges such as water pollution, air, the decline of ecosystems, deserted land, depleted exploitation and wasteful use of natural resources, natural disasters, droughts, floods occur continuously throughout the country...

Recognizing the risks and challenges of economic development separate from environmental protection, the Party and State have determined that to develop quickly and sustainably, they must regularly attach importance to and closely link economic development and environmental protection. The document of the 11th Party Congress emphasized: “Socio-economic development must

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attach importance to protecting and improving environmental quality, proactively dealing with climate change.”<sup>1</sup>

## 2. OVERVIEW OF RESEARCH RELATED TO RESEARCH ISSUES

The issue of economic development and environmental protection is of interest to many scientists and managers at home and abroad, from different angles. Since it is not possible to list all the relevant studies, in this section we list only a few typical studies as the basis of our research.

In their scientific work on „*Economic growth and the environment*“, authors Gene M. Grossman and Alan B. Krueger point out that, in the early stages of development, pollution increases rapidly due to placing a high priority on increasing productivity and people paying much attention to employment, income rather than clean air or water. Rapid development leads to greater use of natural resources and greater emissions of pollutants that exacerbate environmental degradation. As incomes increase, people become more conscious of environmental values, laws, environmental policies as well as enforcement agencies become stricter and more effective, clean technologies, advanced technologies are studied and widely applied facilitating the improvement of environmental quality.

Author Tsumor Ushiyama, with his scientific work „*Environment Pollution Control in Japan-Development and Characteristics*“, pointed out the role of local self-government and the movement activity of local people in the formation and implementation of the Law on Environmental Pollution Control in Japan. People are allowed to participate in administrative management, and protect their right to live in a fresh environment; leaders must have the task of investigating and monitoring the origin, causes, environmental pollution, and other issues, and must publicly inform the people of districts about the pollution as investigated. Besides, an environmental pollution monitoring council (with the participation of the population) is established to investigate and consider measures to monitor the source of environmental pollution (carried out by managers and administrative bodies).

Author O'Connor M in his scientific work „*The „Four Spheres“ framework for sustainability*“ proposed a quadrangular model as the „Four Pillars“ for sustainable development. O'Connor said that „sustainable development is characterized as coevolution of the system: Economic organization, Social organization and Natural Systems organization, expressed by quality/operational objectives related to each field“. The fourth area is the System Regulation via Political organization, defined by the author as regulations that have the role of regulating the functioning of the economic sector, the social sphere, and the relationships that go hand in hand with the environmental sector.

In the scientific work „*Some problems of environmental protection with economic development in our country today*“, author Nguyen Van Ngung said: The environment is the area and the object of development. Development is the cause of all positive and negative changes to the environment. Socio-economic development is an inevitable need of humanity and course in the process of economic development, people will have to exploit the environment ... for a developing country,

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<sup>1</sup> Communist Party of Vietnam (2011), Documents of the 11th National Congress of the Communist Party of Vietnam, Hanoi: National Political Publishing House

which is in the process of industrialization and modernization, it is inevitable to associate economic development with environmental protection.

Author Chu Thai Thanh in his scientific work, „*Environmental Protection - Urgent Requirements in the New Period*“, emphasized: The basic, long-term goal of environmental protection is to achieve harmony between economic growth, implementation of social progress, and environmental protection; everyone has a sense of environmental protection and lives in a fresh, clean, beautiful and nature-friendly environment. This goal covers all environmental protection activities to ensure the country’s sustainable development. The author said that the environmental protection work over the years has had many positive changes, but environmental pollution is still causing many pressing problems, the main reason is the lack of sustainable development.

Author Nguyen Thi Khuong has clarified the problems posed and proposed several solutions to enhance the role of the State in solving the relationship between economic growth and ecological environmental protection in the period of promoting industrialization and modernization, these are: building and perfecting the system of policies, strategies, and laws; perfecting and strengthening the organizational mechanism of the state apparatus; strengthening the inspection, inspection, and supervision; building sufficiently strong financial resources; strengthening learning and international cooperation on ecological environmental protection associated with economic growth.

Although the above-mentioned research works are approached from many different angles and scopes, they all affirm the importance and objective requirements to protect the environment as an important basis and premise to promote the socio-economic development of the country, regional, local; deeply explain the role of environmental protection in the process of industrialization and modernization of the country and the national economy; the analysis clarifies the essence, requirements, contents, and factors affecting and regulating the relationship between economic growth and environmental protection, directly the ecological environment and the natural environment.

### **3. RESEARCH CONTENTS**

#### **3.1. Some basic concepts related to economic development and environmental protection**

##### *Economic development*

Economic development is the most fundamental element of development in general, but economic development is not the purpose itself, on the contrary, economic development must be promoted to serve, to achieve the common goals of development. Economic development is understood as “an increase in both the quantity and quality of the national economy over a certain time. The indicators reflecting economic development are the efficiency of the economy, the efficiency of investment, the economic structure, the competitiveness of the economy compared to other countries in the region and the world”<sup>1</sup>. That said, economic development is a process of change in the direction of progress in all aspects of the economy, including changes in both quantity and quality, which is the process of economic and social perfection of each country. The main content of economic development is the implementation of long-term economic growth, the socio-economic structure changes in the direction

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1 Duc Than Hoang, Quang Ty Dinh (2010), *Economic growth and progress and social justice in Vietnam*, Hanoi: National Political Publishing House.



of progress, socio-economic progress must mainly come from internal motivation and achieve a far-reaching improvement in the quality of life of all members of society.

### *Protecting the environment*

Environmental protection is a vital issue of the country and humanity; is a deeply social task, associated with the struggle to reduce poverty in each country, with the struggle for peace and social progress on a worldwide scale. In order to have a good survival environment, people need to protect the environment, Article 3, Law on Environmental Protection 2014 of Vietnam determined: “*Environmental protection activities* are activities to preserve, prevent and limit adverse impacts on the environment; responding to environmental incidents; overcoming pollution, degradation, improving and restoring the environment; exploit and make reasonable use of natural resources to keep the environment fresh.”<sup>1</sup> The Encyclopedia of Vietnam defines: “*Environmental protection* is the collection of measures to preserve, use or reasonably restore the environment and the environment, the study and testing of equipment using natural resources, the application of technology with little or no scrap in order to create an optimal space for human life”.<sup>2</sup> Protecting the environment means protecting the human survival environment from pollution and from destruction, making the natural environment more suitable for human production and life, while also protecting species of organisms in the natural world.

Thus: *Environmental protection is the whole human activity to preserve the clean environment, exploit and rationally use natural resources; improving and restoring the environment; maintain biodiversity and ecological balance, creating the best conditions to improve the quality of human life.*

The process of industrialization and modernization has made the level of production more advanced, the greater the capacity of people, the more human impact on the natural environment will increase to the depletion of natural resources, causing degradation and environmental pollution. The production process based on the achievements of science and technology has helped the economy grow rapidly, human life is getting better and better, but the use of the achievements of modern technology if not controlled and managed in a strict and reasonable way will bring adverse effects that cause damage and damage. Serious damage to economic development. The relationship between economic development and environmental protection is now inevitable and objective, and all human impact on the environment needs to be dialectically recognized. Because, the natural resources of the earth are finite while the increase in population, urbanization and human needs are increasing, the exhaustion of resources to promote growth, economic development but without reasonable policies in protecting the environment will cost people will pay the price. It is the self-destruction of man in the not too distant future.

### **3.2. Achievements in economic development associated with environmental protection in Vietnam today**

Vietnam has taken advantage of opportunities, favorable, and overcome many challenges, especially the negative impacts of the financial crisis and the global economic recession, the economy has developed quite well and achieved the following basic achievements:

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1 National Assembly of Vietnam(2014), *Environmental Protection Law*.

2 Vietnam Encyclopedia Dictionary Compilation Council (2002), *Vietnam Encyclopedia Dictionary, Volume 2*, Hanoi: Polytechnic Dictionary Publishing House.

First, *the economy is high and has continuous growth for many years, and the size of the economy is constantly expanding.*

The average economic growth rate in the period 2001-2010 was nearly 7.3% per year, of which the highest was in 2007 with 8.46%. In 2008, due to the impact of the financial crisis and the global economic recession, Vietnam's economy declined significantly, but still achieved a GDP growth rate of 5.66%. From 2009 to 2013, the GDP growth rate tended to decrease, but still reached an average of 5.74% per year. Vietnam is among the countries with the highest economic growth rate in the region.

In 2020 alone, economic growth reached 2.91%, although it was the lowest increase of the years in the period of 2011-2020, but in the context of the Covid-19 epidemic complicated developments, negatively affecting all socio-economic sectors of countries in the world, this is a great success of Vietnam with the highest growth rate in the world. On average, in the period of 2016-2020, the GDP growth rate reached 5.99% per year, failing to meet the planned growth target (6.5-7% per year). However, Vietnam's economic growth is ranked among the highest compared to other countries in the ASEAN region.<sup>1</sup>

Achievements in economic growth and development have brought our country out of the socio-economic crisis; get off the list of underdeveloped countries and enter the ranks of middle-income developed countries. The process of economic development has a positive contribution to the growth and development of economic sectors: Agriculture - Forestry - Fisheries, industry and construction, and the service sector.

Over the years, the economic sector structure has shifted in a positive direction: The value share of agro-forestry-fishery has gradually decreased along with the process of gradually increasing the value of the industry, construction, and services. The proportion of the agricultural, forestry, and fishery sectors in GDP in 2020 preliminarily reached 14.85%, down 1.47 percentage points compared to 2016; industrial and construction sectors reached 33.72%, up 1 percentage point; the service sector reached 41.63%, up 0.71 percentage points

However, the speed of movement is still slow and reached compared to the requirements, but it is a shift in line with the objective trend of the industrialization process that many countries have experienced. Along with the process of restructuring the economic sector, the labor structure has also shifted towards increasing the proportion of industrial, construction, and service workers – industries with higher labor productivity and income than the agro-forestry-fishery sector.

Secondly, *Economic development has made an important contribution to solving social problems, implementing progress, and social justice.*

High and continuous economic development achievements for many years and the expansion of the size of the economy have had a positive impact on improving the incomes of the population. In 2020, it will reach \$2,779 per person, 1.33 times the GDP per capita in 2015. According to purchasing power parity in 2017, GDP per capita in 2019 reached 8,041 USD per person, 1.4 times higher than in 2015.<sup>2</sup>

1 General statistical instruments, (2020) Statistical yearbooks, Hanoi: Statistical publishing houses

2 General statistical instruments, (2020) Statistical yearbooks, Hanoi: Statistical publishing houses

Achievements in economic development have helped Vietnam implement a series of measures, such as the Sustainable Poverty Reduction Program for the period of 2016-2020; Other policies such as tuition exemptions for children attending public educational institutions; Policies to support food for children from 3-5 years old to attend kindergarten; Health care policies, free health insurance cards for children under 6 years old and some other groups of children; Decide to remove household registration and citizen papers in administrative procedures and comply with the provisions of the Law on Residence; The project supports socio-economic development of very few ethnic minorities in the period of 2016-2025; Specific policies to support socio-economic development of ethnic minority and mountainous areas in the period of 2017-2020; The project to support gender equality activities in ethnic minority areas in the period of 2018-2025...

Third, Economic development contributes to environmental protection.

Vietnam has been given the policy of sustainable development, i.e. sustainable development both economically, socially, and environmentally. In the past years, in addition to the achievements in economic development, the environmental protection work has initially achieved positive achievements such as:

The system of policies, laws, and state management of environmental protection ... was the first step to perfecting. The Law on Environmental Protection, the Law on Biodiversity, the Law on Forest Protection and Forest Development, the Law on Fisheries, the Law on Land, and the documents under the law have been fully and detailed and specifically prescribed the contents of prevention and control of pollution, environmental restoration, improvement of people's quality of life, on nature conservation and biodiversity. At the same time, the tools and sanctions of environmental protection are also stipulated in the Penal Code, civil code, investment law (2020), and law on environmental protection tax. Most of these laws have been amended and supplemented during the period from 2000 to the present.

Financial resources and the necessary conditions for environmental protection are ensured in an ever-better direction. Socialization of environmental protection has obtained encouraging results, more and more private enterprises are participating in providing environmental protection services, such as water supply and drainage, wastewater treatment, emissions waste ... consulting, and design activities

The state management apparatus on environmental protection and natural resources is gradually completed from the central to localities and establishments. The prevention and control of pollution have contributed to curbing, slowing down the rate of increasing environmental pollution, ensuring the quality of the living environment, and protecting the function and usefulness of environmental components.

### **3.3. Limitations in economic development and environmental protection**

*On economic development:* The economy is not sustainable, the quality of growth is low, the efficiency of using resources is low and slow to improve, and the investment efficiency is low and increasingly tends to decline. In recent years, the size and growth rate of the economy have mainly relied on the increase of manufacturing industries, exporting products based on the advantages available, exploiting the resources of the country ... Social labor productivity and science and technology levels are still low...

In addition, the economic structure is slow to shift in a reasonable and effective direction: The proportion of agriculture in GDP still accounts for 20%, the proportion of services to GDP is only 39% and has barely changed in the last 10 years; The share of industry and construction accounts for 42-45% of GDP, but it is worth mentioning that so far there are a lack of many intermediary industries, especially auxiliary industries. Human resources are abundant, but of low quality, lacking in high-quality labor. The economic and technical infrastructure is still weak, which leads to national competitiveness, the competitiveness of Vietnamese enterprises and the competitiveness of products are extremely low. The gap between poverty is widening, the increase in social inequality, ethics, lifestyle in a degraded part of society; More and more crime and social evils...

*On the issue of environmental protection:* Awareness and awareness of environmental protection of industries, businesses and people are inadequate; It is common to value immediate economic goals over environmental protection goals. There are still many inadequacies, negatives, and frauds in the field of environmental protection and exploitation of natural resources. Lack of close and effective coordination between economic development objectives and tasks and objectives and tasks of exploiting natural resources and protecting the environment. Environmental quality in many places is seriously degraded, and slow to be processed and overcome, causing stress in society. Wasteful use of natural resources such as land, water, minerals, forests, and other resources, causing environmental degradation, imbalance of ecosystems, and degradation of biodiversity ... It is happening in popularity, leaving many consequences for the present and the future.

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The views and guidelines of the Party and the State on environmental protection and natural resource protection are slow to be concretized into specific policy mechanisms and solutions. A number of legal regulations on environmental protection and exploitation of natural resources have revealed inadequacies and inconsistency with practice. The situation of violation of the law on environmental protection in industrial parks and urban areas in the use of water sources, the use of toxic chemicals in production is still serious.

To solve the above limitations, we need to perform some of the following solutions synchronously:

Firstly, completing and supplementing institutions and laws on environmental pollution protection and prevention: Law on environmental protection, Law on biodiversity, Law on water resources, Law on minerals, Law on land, Law on forest protection and development... At the same time, develop and complete the system of legal documents, policy mechanisms on natural resources and environment.

Secondly, effective use of resources such as: strengthening high-tech scientific development in order to make reasonable use of resources; industrial development towards sustainable production and consumption. It is the production and consumption that meets the basic needs and gives a better quality of life. The application of science and technology in production will contribute to reducing the use of natural resources, toxic materials, minimizing the amount of waste and pollutants emitted throughout the life of a product.

Thirdly, strengthen state management in environmental protection as well as improve the social responsibility of enterprises in environmental protection. Environmental management is carried out by a combination of measures: law, policy, economy, technology, society, culture, and education ... These measures can be intertwined, coordinated, and integrated with each other depending on the specific conditions of the problem posed and at different scales: global, regional, national, provincial, district, production facilities, households,... At the same time, the existence of the business is inseparable from the natural environment. Protecting the environment is protecting the necessary conditions for the existence and development of the business. The responsibility to protect the environment is a responsibility not only for the business itself but also for all social actors living in the common natural environment. Only when the business is self-aware of that responsibility will the operation of the business make sense for the protection of the environment.

#### 4. CONCLUSIONS

Economic development is the premise and material condition for solving social problems and protecting the environment. Solving social problems and protecting the environment is the driving force and factor that ensures high and sustainable economic growth. Economic development is to ensure a balance between the demands of rapid economic growth and the need to protect natural resources and regenerate the environment, both to meet the needs of growth and development and not to harm the needs and use of resources of the future generations. Therefore, economic development and environmental protection are essentially equal and balanced development to maintain long-term development, to balance the interests of groups of people in the same generation and between generations of the country.

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# GLOBALIZATION AND DEVELOPMENT OF DIGITAL BANKING SERVICES IN VIETNAM

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**Introduction:** *In this article, the authors refer to digital banking, globalization and digital banking development in Vietnam in the context of globalization. Through the theoretical basis, the article deeply analyzes the current situation in Vietnam, from achievements and difficulties to propose some solutions to develop digital banking services in Vietnam by 2030.*

**Keywords:** *Digital banking, digital banking development, digital banking development in the context of globalization*

## 1. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES

Research on this issue has had a number of works such as: [1] Abbasi, T. & Weigand, H. (2017), [2] Nguyen Trung Anh (2021), [3] Al-Tamimi, H., Hassan, A. (2018), [4] Blount, Y., Castleman, T., & Swatman, P. (2005), [5] Cao, G. Clarke, A. & Lehaney, B. (1999). [6]11. Associate Professor. Doctor. Ha Minh Son Master, PhD student Vu Ngoc Anh (2021)... In this article, we inherit the basic theory to analyze the reality in Vietnam in order to propose appropriate solutions for implementation by 2030.

## 2. THEORETICAL BASIS

### 2.1 Globalization

Globalization is a term used to describe changes in society and in the world economy, caused by increasing linkages and exchanges between countries, organizations or individuals in different corners of the world. cultural, economic... on a global scale. Especially in the economic scope, globalization is almost used to refer to the effects of trade in general and trade liberalization or “free trade” in particular. only see capital flows on a global scale leading to flows of commerce, technology, technology, information, and culture.

In essence, globalization is the process of strongly increasing the relationships, influences, interactions, and interdependence of regions, countries and peoples in the world.

**Manifestations of globalization:** Increase international trade at a rate higher than world economic growth, increase international capital flows including foreign direct investment, increase cross-border data flows through the use of using technologies such as the Internet, communication satellites and

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telephones...; Globalization also affects people's consciousness, making people pay more attention to issues with global impacts such as climate warming, terrorism, drug trafficking, or raising living standards in cities. poor countries; Increased international travel and tourism, migration, including illegal immigration, development of global telecommunications infrastructure, development of international financial systems; Increasing the role of international organizations such as WTO, WIPO, IMF

The impact of globalization: (1) Economic aspect: The positive side of free trade is that it allows developing countries access to world markets thereby developing their production to a scale that exceeds the needs of the domestic market. geography. At the same time, through the import of goods and technology from developed countries, the technical level of developing countries increases. However, globalization also makes labor movement between countries take place more and more easily, this phenomenon contributes to the widening gap between rich and poor between developed and developing countries, between regions. separate areas within a country. Globalization also increases the level of financial liberalization of countries. The positive side is that it is easier for developing countries to receive investment capital from developed countries for economic development, but the limitation is that then withdrawing capital from these countries makes the finances of the countries worse. This country weakened due to foreign currency loss leading to financial crisis. (2) Cultural, social and linguistic aspects: From a linguistic perspective, we see a clear trend towards homogenizing the use of "global English". The global popularity of English is associated with the loss of political power at the world level: instead of a coordinated international cultural policy that can lead to the choice of a well-defined language. With clear and clear phonetics, most countries choose to teach English to young people based on other countries' choices. (3) Political aspect: Globalization brings peoples closer together. Globalization will increase many times the relationships between the world's citizens and also the opportunities for each person.

## 2.2. Digital Bank

Digital Banking is a new concept and much broader than the concept of e-banking, a higher development stage of e-banking. Electronic banking system (Internet Banking and Mobile Banking) is called digital banking but digital banking is not electronic banking. Before going to learn the difference between digital banking and e-banking, there are 4 main contents of digital banking, including: (1) Channels to connect with customers, (2) Automating processes, (3) Decision Support (Based on Data Analytics) and (4) Business and Product Innovation:

(1) Channels to connect with customers: To meet the needs of customers, the bank must modernize to have many channels to connect with customers such as branches and transaction points, Internet Banking, Mobile Banking, Kiosk, Queuing system, Customer care center/ Contact Center, Social network channel.... Banks must have a solid technology foundation to ensure that banking services are provided easily on many different channels with the same quality, information is passed between channels. Digital banks will promote the development of digital distribution channels, combine digital distribution channels with over-the-counter channels, and digitize counter channels (such as self-service systems at counters ...) to bring the best experience to customers. row. A very important requirement of a digital bank when the bank deploys many channels to connect with customers is that those channels must have connectivity and ensure service uniformity between the channels that customers have transacted with. In today's market,



leading providers of core banking solutions have added these features to their solutions under the name Omni-Channel to assist banks in provide multi-channel service and uniform user experience.

(2) Process automation: Nowadays, maximum automation of product and service delivery processes, banking operations through channels without humans is a mandatory requirement of digital banks... Current Information Technology solutions allow banks to use advanced technologies such as work flow management (Work Flow), business process management (BPM - Business Process Management) in building business processes. process, process adjustment. Banks are equipped with supporting solutions for automating product creation and supply processes to combine with digital distribution channels, providing products with high technology content to customers. For example, when a bank wants to make an online loan on Internet Banking, without human intervention, the bank must have sufficient information about the customer, choose and design a simple and secure loan product. for application on software systems. For new core banking systems in the market - Corebanking (Software system that integrates informatics applications in information management, assets, transactions, risk management... in the banking system), automated content is supported through new features such as packaging products by customer segment, easily managing the delivery of these products across different distribution channels.

(3) Decision support: To be able to simplify the process, provide the right products, quickly to the right customers on different channels, it requires the bank's application system to handle obtain a large amount of data within the bank as well as external data for decision making. Therefore, the application system of the digital bank needs to be able to analyze data for more accurate, faster and better decision making based on customer choice and risk management principles. of the bank. The higher the proportion of automated business decisions made based on data analysis, the higher the degree of digitization.

(4) Innovation in products and business: In the process of building a digital bank, banks must have research and development to innovate and make breakthroughs, taking advantage of the development of science and technology. in the banking sector to ensure competitiveness with other banks as well as with financial technology competitors outside the banking sector (Fintech companies such as Google, Apple...). Currently, the field of providing payment services on Mobile is an area that digital banking solutions must pay great attention to, to make a difference in competition as well as win over competitors operating outside the banking sector - Fintech companies. Thus, in addition to product innovation, banks must also innovate in the way they manage their products and services.

### **2.3. Developing digital banking services in the context of globalization**

The Industrial Revolution 4.0 along with the development of information technology has impacted all areas of socio-economic life. In particular, the strong development of financial technology companies (Fintech), transformation into digital banks is a sustainable development direction for banks in the world and in Vietnam. Notably, the COVID-19 pandemic has changed the perception and gradually changed the habit of using banking services of the majority of Vietnamese people on digital platforms. This is both an opportunity and a challenge for banks in Vietnam in developing digital banking.

While E-banking is an electronic banking service system (including services such as: Internet Banking, SMS Banking, Mobile Banking) created to supplement services on traditional banking platforms, Digital Banking is a type of digital banking with full functions of a bank, from organizational structure to working processes, products and services, documents and transaction methods with customers.

Digital Banking requires high technology, including innovation in financial services for customers around strategies on digital application, application of artificial intelligence, payment, RegTech, big data, blockchain technology (blockchain), API, distribution channel and technology (American banker, 2018). The development of digital banking helps banks save costs, increase competitiveness, improve compliance and transparency in business activities. For customers, digital banking helps customers use banking services conveniently and securely with maximum utility, saving costs and improving financial efficiency, supporting online business development.

Along with the development trend of the Industrial Revolution 4.0, Vietnamese commercial banks have implemented and achieved certain successes in digitization and application of modern technology in financial activities. main - banks such as: Digital banking/Digital Lab; Timo Bank, ATM + LiveBank... Some commercial banks have successfully cooperated with Fintech companies to bring new and modern technology into payment activities on mobile devices such as: Applying biometrics, using QR code, Tokenization, mPOS technology, e-wallet... Commercial banks have taken the first steps in the process of researching and applying artificial intelligence, automation by robots, Blockchain... Non-stop research Research and improve existing products and services and develop new products to best meet customer needs.

Criteria reflecting the development of digital banking: (1) Expanding the scale of digital banking services: (i) Market share of products and services: Market share is the market share that the bank holds. This is one of the criteria to evaluate the development of digital banking services at commercial banks. The larger the market share, the more customers can access and use the bank's services, the bank has been successful in marketing and promoting digital banking services to the market. Banks that have good service quality, diversified products and services, and capture consumer psychology will win and gain more market share. Thus, the criterion of market share of products and services is also considered as one of the important criteria to evaluate the development of digital banking services at commercial banks. (ii) Sales of products and services: Sales is a very important indicator to evaluate the development of digital banking services. The larger the operating turnover, the higher the number of customers using digital banking products and services, the more market share. This is the combined result of expanding, developing and improving the quality of products and services. (iii) Objects and number of customers: A commercial bank is considered to have developed digital banking services, first of all, it must meet the needs of a variety of customers. The higher the level of customer satisfaction, the more customers use digital banking services, leading to a larger number of services provided to the market. (iv) Revenue from services: Maximizing profit is the ultimate business goal that any business wishes to achieve, and banks are no exception. This is one of the indicators reflecting the effectiveness of the development of digital banking services at commercial banks. Digital banking services are considered to be fully developed when the revenue and profit brought by digital banking services must be commensurate

with the capital that the bank has spent. (v) Growth rate of the above indicators: The criterion of the increase in operational efficiency is the aggregate criterion and reflects the results of the development of digital banking services at commercial banks. For each digital banking product offered to the market, the growth rate of operational efficiency is a significant indicator that decides whether to continue developing the service or suspending service implementation if the efficiency is not satisfactory. as expected. From there, the Board of Directors will make timely decisions related to operation strategy, IT strategy, adjustment of customer segments, customer care policy... in order to contribute to improving competitiveness and efficiency. activities of NH. (2) Quality of digital banking services: (i) Customer satisfaction: The digital banking products and services offered by banks to the market are widely used by customers, demonstrating the convenience of digital banking services. that type of product and also means customer satisfaction with the service that the bank provides. The satisfaction assessment will help the bank to have appropriate policies to best meet the needs of customers. (ii) Diversity and utility of services: To be able to compete and stand firm in the market, banks must constantly diversify digital banking products and services, upgrade and improve quality products and services with many utilities. By doing so, digital banking services at banks will constantly grow and grow, attracting a large number of customers to use, contributing to increasing profits for banks. (iii) Bank's brand and reputation: When the bank's brand and reputation in the market is confirmed, customers will trust and use the bank's services. A bank with a good brand and reputation is a bank with strong financial potential; secure IT system; a team of capable, qualified, professional and dedicated staff; diversified services with many added values, modern distribution channels... fully meet the demand for services for all subjects of the economy. (iv) Competitiveness in the market: Banks who want to stand firm in the market need to constantly innovate their operations to meet the diverse and rich needs of their customers. The criteria to measure the competitiveness of commercial banks include: own capital, mobilized capital, service prices, facilities, qualifications of management team and staff, network of operations.

Factors affecting the development of digital banking services: (1) Legal basis: The legal basis is one of the important factors affecting the development of digital banking services at commercial banks. In the past time, the Government, the State Bank, ministries and agencies have promulgated Laws and related documents to promote the development of e-banking services such as: Law on Electronic Transactions 2005; Decree No. 35/2007/ND-CP dated March 8, 2007 on electronic transactions in banking activities; Decree No. 52/2013/ND-CP dated May 16, 2013 on e-commerce; Circular No. 59/2015/TT-BCT dated December 31, 2015 providing for the management of e-commerce activities via applications on mobile devices; Decree No. 101/2012/ND-CP dated November 22, 2012 on non-cash payments... (2) E-commerce development policy: Over the years, the Government has made efforts to build and perfect e-commerce development policy (most recently the Prime Minister's Decision No. 2545/QĐ-TTg dated December 30, 2016 approving the project to develop non-cash payment in Vietnam in the first phase). 2016-2020), thereby creating a favorable environment for the development of digital banking services. (3) The policy of e-commerce has expanded to most of the services such as: Paying salaries through the accounts of civil servants; Electronic customs clearance; Pay taxes via the Internet; Collect electricity bills through Internet/Mobile Banking/POS channels of banks or collect via e-wallets

of payment intermediaries; Pay for train tickets, airline tickets via online payment systems or bank cards; Collection of tuition and hospital fees through electronic banking channels... (4) IT and communication infrastructure: Digital banking was born on the basis of strong development of IT and communication science applications. Therefore, in order for the digital banking development plan to be feasible and effective, it is necessary to equip a fully-capable IT infrastructure. Over the years, the national technology infrastructure has been significantly improved, and the application of broadband access methods has facilitated the development of digital distribution channels in the banking sector. In 2016, according to the International Telecommunication Union (ITU) announced the Information Technology - Telecommunications Development Index (IDI), Vietnam ranked 105/175 countries in the world, 5th in Southeast Asia and 5th in Southeast Asia. 12th/17th in the Asia-Pacific region. However, the uneven development of IT among economic regions, agencies and organizations, along with Vietnam's IT and communication infrastructure, still remains unstable. In fact, network congestion and connection loss still occur frequently, negatively affecting the continuity and stability of digital banking services. (5) Competitive pressure from foreign commercial banks: International economic integration and financial liberalization create conditions for Vietnamese commercial banks to have the opportunity to learn and access modern technology applications, Despite having abundant management skills and financial resources, domestic banks are also under increasing competitive pressure from foreign banks. These are competitive pressures on capital - financial resources, technology background, experience in risk management as well as competitive pressures on attracting good and qualified human resources... (6) Pressure from non-bank payment intermediaries and some telecommunications units: Along with the strong development of IT and electronic payment translation, the Vietnamese market has appeared non-banking organizations (Startup - Fintech) and telecommunications companies (Viettel, Samsung) have made strong progress and will continue to participate in providing a number of services similar to banks, such as online payment for goods through wallet brands. electronic devices (MoMo, Moca, VTCPay, Vnmart, Ecpay, Bao Kim, PaYoo, Ngan Luong...), money transfer services...; This will create pressure on banks in developing digital banking services, requiring banks to constantly improve and improve the quality of products and services as well as customer service capacity.

### **3. THE SITUATION OF DEVELOPING DIGITAL BANKING SERVICES IN THE CONTEXT OF GLOBALIZATION IN VIETNAM.**

#### **3.1. Current status of banking development in Vietnam**

Vietnam is in the early stages of digital transformation, many banks have started to deploy digital banking services. Most banks in Vietnam have a digitalization strategy and digital banking development orientation. All banks consider digital transformation to be of vital importance, therefore, up to 96% of banks have been building development strategies based on 4.0 technologies and 92% have developed services. application services on internet and mobile.

Most Vietnamese banks have been implementing digital transformation strategies, setting up their own digital banking departments to focus on researching and implementing digital transformation. For example, Nam A Joint Stock Commercial Bank (Nam A Bank) has launched a digital transaction space integrating a modern device ecosystem, applying artificial intelligence

with the appearance of OPBA Robot and VTM digital branch. OPBA; Or like Orient Joint Stock Commercial Bank (OCB) has built the OCB OMNI channel. Accordingly, digital transaction channels are connected and uniform for customers to experience throughout when they have a transition between channels, helping customers to use products and services without going to a transaction office. ...

In addition, many banks are starting to implement digital banking at the level of processes and communication channels, only a few banks are shifting to digitalization at the data platform. In terms of process, some banks have completed automatic transaction systems, applying a part of big data such as: Joint Stock Commercial Bank for Investment and Development of Vietnam (BIDV), Joint Stock Commercial Bank for Foreign Trade of Vietnam. (Vietcombank), Vietnam Technological and Commercial Joint Stock Commercial Bank (Techcombank), Tien Phong Joint Stock Commercial Bank (TPBank)... In terms of communication, some banks have applied artificial intelligence, machine learning and provided private services. 24/7 automated consultation through conversations on the bank's website or social network.

In addition, banks are implementing cooperation models with technology enterprises in the financial sector or large technology companies. This cooperation brings customers more enjoyable experiences, as well as access to diversified services with fewer transactions. Over the past time, commercial banks in Vietnam have actively and proactively implemented digital transformation and achieved positive results. Specifically, by the end of August 2020, the number of individual accounts reached 95.6 million, up 45.5% over the same period in 2016; The total number of cards in circulation reached 109 million cards. ATM and POS network covers all provinces and cities across the country with 19,541 ATMs and 274,539 POS. The number and value of payments via internet channels reached 282.4 million transactions with 17.4 million billion VND (up 262.5% and 353.1% over the same period in 2016); The number and value of payment via mobile phone channel reached 682.3 million transactions with nearly 7.2 million billion VND (up 980.9% and 793.6% over the same period in 2016); Payment via POS reached more than 218 million items with 382.86 trillion VND (up 176.45% and 139.52% respectively over the same period in 2016); Payment via ATM reached 660 million items with 1,818.58 trillion VND (up 38.65% and 53.77% respectively over the same period in 2016).

Vietnam currently has about 30 million people using the internet banking payment system every day. The growth rate of transaction volume on mobile banking in Vietnam is 200%. The value of money transactions with the mobile phone channel alone is currently about 300 trillion VND/day.

### **3.2. Difficult**

Besides the advantages, the development of digital banking in Vietnam still faces many difficulties and challenges: (i) the legal framework, which forms the basis for digital banking operations and development, is still lacking. For example, the digital payment segment is currently developing very quickly according to technological advances, but the legal regulations have not kept up, making commercial banks afraid to apply new technologies and services outside the allowed framework. (ii) recent cases of fraud related to digital payment activities are becoming increasingly

sophisticated and complex. The ability to prevent fraud for digital banking transactions has always been of interest to commercial banks, but still cannot create peace of mind for customers. (iii) During the period when commercial banks are transforming the core banking system, almost the entire system and implementation methods have changed. Bank staff need time to update, process and get used to. with the new system. This leads to sometimes delays in banking transactions or possible system failures. (iv) The technology race in the banking industry with digital banking projects also contributes to many risks in security in general and insecurity of user information in particular. The capacity to secure financial information in the digital environment is still limited in Vietnam. (v) Difficulty in managing fraud risks from employees, customers, outsourcing risks such as hiring security guards to protect banks or difficulties in risk management to ensure business continuity , without interruption (vi) users' awareness when they are not aware of risks in online banking transactions, disregarding the security of personal information; students, employees... leaking information, creating conditions for criminals to create ghost accounts, causing difficulties in investigation; transactions, fraud tricks are increasingly sophisticated and difficult to detect... (vii) Vietnamese people still have the habit of using cash in payment. The habit of non-cash payment is now popular only in central provinces and cities - where there are good technological infrastructure conditions, while in remote and remote areas, non-cash payment is not used. Cash is still in the planning stage.

#### **4. SOLUTIONS TO PROMOTE THE DEVELOPMENT OF DIGITAL BANKING SERVICES IN VIETNAM**

In the context of globalization, in order to promote the development of digital banking in Vietnam, it is necessary to focus on the following solutions:

(i), continue to improve the legal framework for new banking services, which will be completed quickly in the near future, so that banks have a full legal framework to develop powerful digital products. and faster. In particular, the completion of legal corridors to ensure security and safety of information and customer data is extremely important in data management in the banking and financial sectors; creating a foundation for the application of key technologies of the Industrial Revolution 4.0, towards the strong and modern development of the bank in the future.

(ii), for successful digital banking implementation, it is necessary to remove barriers caused by scattered data, create large databases thanks to a high degree of service integration in the financial ecosystem, and performing data migration to the cloud helps speed up the conversion process. At the same time, it is necessary to develop a unified standard on QR codes for the market, build an interbank information sharing system, improve technologies related to the use of electronic documents instead of paper documents, promoting the application of electronic signatures...

(iii) promote the application of modern technology to management activities, promote scientific and technological research, and applied research in the field of digitization to support the process of policy and practice formulation. legal corridor.

(iv), change the mindset and perception of managers and bank leaders with the pioneering leadership, as well as pursue the identified digital technology development strategy synchronously and consistently.

(v), closely following the general development strategy of the bank, combined with internal assessment of the bank's technology situation, thereby forming a strategy for applying digital technology in banking activities. Studying cooperation with fintech companies to build a breakthrough business model through the application of digital technology to increase convenience and save costs.

(vi), balance the budget for the implementation of digital technology applications. Investing in digital technology is a long process, including many different technologies and huge investment costs. Therefore, banks need to stick to their budget for technology activities to choose which technology application to deploy in the seven trends of digital technology application above and which activities are suitable for them. fit.

(vii), comply with regulations and guidance of the State Bank on ensuring safety and security of online banking transactions; develop detailed scenarios, processes and instructions for dealing with incidents of online fraud... Recently, the State Bank of Vietnam has issued Circular No. 09/2020/TT-NHNN regulating on information system safety in banking operations in order to update new regulations of the Law on Cyberinformation Security and guiding documents; at the same time, adjust security requirements in line with the reality of rapid and diverse development of information technology and the situation of cyberinformation security in the banking industry...

## 5. CONCLUSION

In the context of globalization, although certain results have been achieved, the development of digital banking in Vietnam over the past time still has some obstacles such as: (i) Habits of using banking services through the traditional channels of a segment of customers; (ii) The legal framework is incomplete and often lags behind the development of technology; (iii) Information technology infrastructure and information safety and security infrastructure are still limited; (iv) The source of investment costs in technology innovation and digital transformation is very expensive; (v) Competition from fintech companies and big technology companies (Big Tech) will also put pressure on digital banks.

Therefore, in order to continue to develop the digital banking model, contributing to the realization of the goals of the National Digital Transformation Program to 2025, with orientation to 2030; In the National Comprehensive Financial Strategy to 2025, with a vision to 2030, the above-mentioned major obstacles need to be addressed by the relevant regulatory agencies and financial institutions. Forecasting the future, digital banking is the next stage of our lives. Towards a qualitatively innovative society, involving the digitization of most processes and procedures, aiming at simplifying people's lives, encouraging the development of modern technology, expanding knowledge and acquire new skills. As for Vietnam, we can say that the banking industry has chosen the right path. It is important that in the coming time, Vietnamese banks must fully assess the situation in the country and the world in order to have appropriate development plans.

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# FISCAL POLICY FOR CLIMATE CHANGE ADAPTATION IN AGRICULTURE SECTOR IN VIETNAM: REALITY AND RECOMMENDATION

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**Abstract:** *Climate change is a major threat to sustainable development in all countries, including Vietnam. Fiscal policy is considered to be one of the important instruments to mobilize and allocate resources to respond to climate change. This article analyses and evaluates fiscal policy for climate change adaptation in agriculture sector in Vietnam in recent years and proposes solutions. The research results show that fiscal policy plays an important role in the process of renewing the growth model of the agricultural sector towards climate change adaptation in a sustainable way. In order to overcome some limitations and improve the effectiveness of fiscal policies for climate change adaptation, the State needs to optimize the capacity of simultaneous mobilization domestic and international resources by instruments such as tax, investment, credit, agricultural insurance.*

**Keywords:** *Adaptation, agriculture, climate change, fiscal policy*

## INTRODUCTION

In recent years, the economic growth in general and the agricultural sector in particular has relied mainly on the exploitation and export of raw resources. These puts pressure on the quality of the environment leading to degradation, disasters caused by natural disasters and developments in global climate change are increasing rapidly, putting pressure on the country's sustainable development. In order to restructure and gradually transform the growth model from breadth to depth towards greening, many Government policies to support the sustainable development of the agricultural sector have been designed and promulgated, including fiscal policy for climate change adaptation. The article analyses and evaluates fiscal policy for climate change adaptation in agriculture in Vietnam in recent years and proposes solutions. The research results show that fiscal policy plays an important role in the process of renewing the growth model of the agricultural sector towards climate change adaptation in a sustainable way. In order to overcome some limitations and improve the effectiveness of fiscal policies to support the agricultural sector to adapt to climate change, the State needs to optimize its ability to simultaneously mobilize domestic and international resources through instruments such as taxes, investment, credit, and agricultural insurance.

## LITERATURE REVIEW

The concept of climate-change adaptation finance has been an issue of widespread concern around the world, studied in both methodological and research perspectives.

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Macquard and Tyler (2010) pointed out that each country's internal resources to adapt to climate change should be valued and utilized in addition to capital from abroad for both developed and developing countries.

Blend Cloete and Yash Ramgowlan (2011) found that South Africa pursues a fiscal policy that maximizes domestic and foreign resources in order to transform its economy to green growth.

The reports of the World Bank (2009), UNFCCC (2008, 2011) showed that the costs and allocation mechanisms for climate change adaptation tend to be equal to climate change mitigation.

In Vietnam, the research on climate change adaptation fiscal policy has obtained some outstanding results. Tran Tho Dat, Dinh Duc Truong (2019) analysed the current situation of fiscal policy for climate change in Vietnam, challenges in mobilizing financial resources that Vietnam is facing, thereby providing policy implications for effectively mobilizing finance for climate change.

Vu Thi Quynh Hoa (2013) showed that the fiscal policy for climate change needs to change strategies in prioritizing resource allocation in order to enhance resilience and adaptation to climate change in the direction of prioritizing the vulnerable.

Hoang Van Hoan, Hoang Dinh Minh (2016) analysed capital mobilization policies for climate change adaptation in countries around the world and in the region, and lessons learned for Vietnam.

Hoang Van Hoan (2015) analysed financial mechanisms and policies to mobilize, manage and use financial resources in adapting to the impacts of climate change in Vietnam.

Tran Hong Thai, Hoang Van Hoan, Pham Thi Thu Huong, Mai Kim Lien, Tran Duc Anh (2014) analysed the experiences of some countries in the world in mobilizing, managing, and using financial resources to respond to climate change and proposes solutions of Vietnam in this regard.

Ha Thi Thuan, Hoang Van Hoan, Pham Thu Huong (2014) assessed the reality and propose some solutions to promote the mobilization of financial resources from the private sector in responding to climate change in Vietnam.

## **METHODOLOGY**

### ***Data collection method***

This article collected data on the basis of studying existing documents and by manipulating logical thinking to draw necessary scientific conclusions related to the content of fiscal policy for climate change adaptation in agriculture. By reviewing the scientific literature from various official sources around the world as well as practicing the method of systematizing theory and history, the article has reached important conclusions on the issues involved. to the current status of fiscal policy for climate change adaptation in agriculture in Vietnam.

### ***Data analysis method***

This article applied the method of synthesizing, analysing and comparing secondary data on the content and issues related to fiscal policy for climate change adaptation in agriculture in Viet-

nam in the period of 2011-2021. From there, some solutions are recommended to improve these policies for the coming period.

## RESULTS AND DISCUSSION

### 1. Fiscal policy for climate change adaptation in agriculture sector in Vietnam in the current period

The content of fiscal policy for climate change adaptation in agriculture sector in Vietnam in the recent period has mainly focused on limiting the risk of harm to the environment and encouraging clean agricultural production and high-tech agriculture.

#### 1.1. Promote the limitation of harmful risks of agricultural products to the climate and environment

The Law on Environmental Protection Tax No. 57/2010/QH12 and the Environmental Protection Tariff in Resolution 1269/2011/UBTVQH12, effective from January 1st, 2012, stipulates the taxation on a number of products whose production, import, trading, storage and consumption processes have certain harmful effects on the ecological environment. In particular, there are a number of products related to agricultural production such as herbicides, termites, forest product preservatives, and warehouse disinfectants that are restricted from use. The tax on environmental protection on some of these products has shown the goal of protecting the ecological environment, contributing to changing people's awareness in the use of chemicals in agricultural production, promote agricultural restructuring to develop clean agriculture, and adapting to climate change in sustainable economic development according to the trend of the world.

**Table 1: Tariff on Environmental Protection Tax on agricultural products**

No	Item	Unit	Tax rate according to Decree 1269/2011/UBTVQH12 (VND/1 unit of goods)	Tax rate according to Decree 579/2018/UBTVQH14 (VND/1 unit of goods)	Adjustment level
I	Herbicides of restricted use	kg	500	500	0
II	Termite insecticides of restricted use	kg	1.000	1.000	0
III	Preservatives for forest products are restricted from use	kg	1.000	1.000	0
IV	Disinfectants are restricted from use	kg	1.000	1.000	0

Source: Decree 1269/2011/UBTVQH12

Along with tax and state budget collection policies on environmental protection, the state budget collection policy also encourages economical and efficient use of energy and encourages the production of renewable energy, clean energy, energy from waste destruction and energy conservation mainly through tax incentives, regulations on sanctions when importing energy-using equipment with outdated technical characteristics or is classified as waste.

## **1.2. Encourage clean agricultural production and high-tech agriculture**

In addition to limiting and preventing agricultural products that have an impact on the climate and environment, fiscal policies also aim to encourage clean agricultural production and high-tech agriculture through tax instruments, state budget expenditures, credit, agricultural insurance policies. Specifically:

### **Firstly, tax policy**

Policies on encouraging agriculture adaptation are promoted, adjusted and completed in the direction of expanding many incentives to support clean agricultural production, high-tech agriculture, and application of environmentally friendly waste treatment technologies... The above contents are specified in relevant documents: Law on Personal Income Tax, Law on Corporate Income Tax, Law on Value Added Tax, Law on Tax on Agricultural Land Use... Accordingly:

*Regarding personal income tax, Law on Personal Income Tax 04/2007/QH12 promulgated on November 21st, 2007, the revised Law on Personal Income Tax 26/2012/QH13 on November 22nd, 2012 together with relevant documents regulate tax-exempt incomes, including incomes of households and individuals directly engaged in agricultural production, forestry, salt making, aquaculture or fishing that have not yet been processed into other products or only through ordinary preliminary processing, incomes from salaries and wages of Vietnamese seafarers working for foreign shipping lines or Vietnamese shipping lines for international transport, and incomes of individuals being ship owners, individuals having the right to use ships and individuals working on ships from activities of providing goods and services directly serving offshore fishing and fishing activities. This regulation also contributes to solving difficulties, creating conditions for farmers, and encouraging the development of agricultural production.*

*Regarding corporate income tax, Law on Corporate Income Tax No. 32/2013/QH13 promulgated on June 19th, 2013 and related documents expand many incentives and supports for the agricultural industry to encourage clean production, climate change adaptation. Accordingly, the preferential tax rate of 10% is applied to incomes of enterprises from: planting, tending and protecting forests; farming and processing agricultural and aquatic products in areas with difficult socio-economic conditions; planting forest products in areas with difficult socio-economic conditions; production, multiplication and crossbreeding of plant and animal varieties; investment in post-harvest preservation of agricultural products, preservation of agricultural products, aquatic products and food; incomes of cooperatives operating in the fields of agriculture, forestry, fishery and salt production that are not located in areas with difficult socio-economic conditions or areas with extremely difficult socio-economic conditions. For incomes of hi-tech enterprises and hi-tech agricultural enterprises according to the provisions of the Law on High Technology, the preferential tax rate of 10% is applied for a period of 15 years.*

The Law on Corporate Income Tax also has new provisions on the setting up of the Science and Technology Development Fund in enterprises and the pre-tax income set aside to form this Fund is not subject to corporate income tax. This regulation clearly shows the State's encouragement for enterprises in general and agricultural enterprises in particular in setting up and using capital sources to serve scientific and technological activities in order to improve production and

business efficiency and competitiveness of enterprises, especially in the initial conditions of research, development and application of high technology in the field of agricultural production.

The regulations on incentives, tax exemptions and tax reductions for agricultural production activities in general and hi-tech agriculture in particular have attracted investment capital in these fields, facilitated the removal of difficulties for agricultural production, contributed to improving people's living standards, created a good business environment for the agricultural sector, and encouraged the implementation of high-tech agricultural production...

**Regarding value-added tax,** *Law on Value Added Tax No. 13/2008/QH12 promulgated on June 3rd, 2008 and related documents* stipulate that cases that are not subject to VAT are agricultural products, goods and services serving agricultural production such as crop, livestock and aquatic products, that have not been processed into other products or have only been preliminarily processed, sold by self-manufacturing and self-fishing organizations and individuals and at the stage of importation.; products which are livestock breeds, plant varieties, including breeding eggs, breeding animals, seedlings, seeds, semen, embryos, genetic materials; irrigation and drainage; plow and harrow the land; dredging canals and ditches in the field to serve agricultural production; agricultural product harvesting services; fertilizer; specialized machinery and equipment for agricultural production; offshore fishing vessels; fodder, poultry and other pet food.

In addition, a number of products that are inputs and outputs of agricultural production are regulated to apply the tax rate of 5%, such as: ores for fertilizer production; pesticides and growth stimulants for livestock and plants; services of digging and embanking, dredging canals, ditches, ponds and lakes in service of agricultural production; cultivating, caring for and preventing pests and diseases for plants; preliminary processing and preservation of agricultural products; agricultural and livestock products.... This is a lower tax rate than the normal tax rate of current VAT. Thus, it can be seen that activities subject to VAT but essential for agricultural production have certain incentives in terms of VAT compared to other activities when they are only subject to the same tax rate. 50% of the normal tax rate.

**Regarding import and export tax:** *Law on import tax and export tax No. 107/2016/QH13 promulgated on April 6th, 2016 and related documents* regulate tax exemption for goods being plant varieties, livestock breeds, fertilizers and plant protection drugs that cannot be produced at home and need to be imported according to regulations of competent state management agencies. In addition, raw materials, supplies and components that cannot be domestically produced may be imported for production of an investment project on the list of industries and trades with special investment incentives or geographical areas with socio-economic conditions. With special difficulties according to the provisions of the law on investment, high-tech enterprises, science and technology enterprises, science and technology organizations are also exempt from import tax for a period of 5 years, counting from the start of production.

**Regarding agricultural land use tax:** The current regulations of the land use tax allow tax exemption until the end of December 31st, 2020 for the entire agricultural land area for households and individuals that are allocated land by the State for agricultural production, including land inherited, donated or transferred; households and individuals who are members of agricultural production cooperatives, farm members and forestry workers who have received stable contracted

land from cooperatives, state-owned farms, and state-owned forestry farms for agricultural production according to regulations of the Law; households and individuals engaged in agricultural production contribute their agricultural land use rights to establish agricultural production cooperatives in accordance with the Law on Cooperatives. In addition, the agricultural land area allocated by the State to economic organizations, political organizations, socio-political organizations, socio-professional organizations, non-business units and other units is on duty. Continued use of land for agricultural production is also exempt from tax.

**Regarding other fee incentives**, the Ministry of Finance has submitted to competent authorities for promulgation many preferential policies on fees and charges in the agricultural sector. Typically, the policy of exempting registration fees for land allocated, leased or recognized by the State for use in agricultural production. In addition, the Ministry of Finance has reviewed, abolished or submitted to competent authorities to abolish unreasonable fees and charges in the field of agriculture in order to reduce administrative procedures and reduce input costs of enterprises investing in agriculture and rural areas, specifically, transferring 06 fees in the agricultural sector to implementing according to service prices and abolishing 09 fees in the field of agriculture.

### **Secondly, investment policy**

Currently, state budget expenditure policies related to climate change can be divided into two groups: state budget expenditures for environmental protection and climate change control and state budget expenditures for mitigating and overcoming consequences of natural disasters. In which, the state budget must ensure that spending on environmental protection is not lower than 1% of total state budget expenditure. In addition to the state budget expenditure for environmental protection, there is also state budget expenditure to support investment in forest protection and development, development of forestry with high technology application, a number of programs, projects and projects on environmental protection such as the target program for sustainable forestry development, the target program to thoroughly deal with establishments causing serious environmental pollution in the public interest, and the target program to adapt to climate change and green growth...

For state budget expenditures for disaster mitigation and remediation, the state budget is allocated annually for the task of planning, building, repairing, upgrading and restoring dykes and flood and storm prevention works, technical equipment for forecasting, warning, expenses for commanding, directing and operating flood and storm prevention and other disaster prevention and control activities, etc., and unexpected state budget allocations extracted from economic sources national reserve costs, financial reserves, backup sources... for disaster mitigation and recovery. In addition, there is a targeted program to restructure the agricultural economy, prevent and mitigate natural disasters, stabilize people's lives, etc.

### **Thirdly, credit policy**

In order to promote agricultural development to adapt to climate change through replicating high-tech and clean agriculture models, The Government has requested the State Bank of Vietnam (SBV) to direct major commercial banks, which are state-owned commercial banks, to spend at least VND 100,000 billion from the mobilized capital of banks to implement a lending program for the hi-tech and clean agriculture with an appropriate interest rate (lower than the market interest rate).

On June 10th, 2013, the Prime Minister issued Decision 899/QĐ-TTg approving the project "Restructuring the agricultural sector towards value enhancement and sustainable development".

This is an important basis for restructuring and reorganizing production for the Agriculture sector in the direction of improving quality and value to suit the new situation.

Implementing the above policy, the State Bank of Vietnam has identified agriculture and rural areas as one of the priority areas for capital investment. The SBV has issued and implemented many policies to direct credit capital flows into this sector. Specifically, on June 9, 2015, the SBV advised the Government to issue Decree 55/2015/ND-CP on restructuring credit policies for agricultural and rural development (replacing Decree No. 41/2010/ND-CP).

This is a breakthrough, promoting credit capital investment in the fields of agriculture and rural areas, in which credit policies are regulated, encouraged and promoted to organize agricultural production according to the model of high technology application. Enterprises, cooperatives and unions of applying high technology in agricultural production will be considered by banks for unsecured loans up to 70-80% of the value of value chain linkage projects; in the case of key enterprises linking or applying high technology that are at risk due to objective reasons, they will be considered for debt rescheduling, debt freezing, or even debt forgiveness.

Resolution 30/NQ-CP dated March 7, 2017 directing commercial banks, mainly state-owned commercial banks, to implement a loan program to encourage the development of high-tech agriculture and clean agriculture with appropriate interest rates (lower than market interest rates). The State Bank of Vietnam has coordinated with the Ministry of Agriculture and Rural Development to issue Decision 813/QD-NHNN dated April 24th, 2017 on the loan program to encourage the development of high-tech and clean agriculture.

Borrowers such as legal entities and individuals having a need to borrow capital to implement high-tech and clean agriculture production and business projects and plans according to the criteria for determining high-tech and clean agricultural programs and projects (specified in Decision 738/QD-BNN-KHCN) will be considered for loans with medium and long-term lending interest rates ranging from 0.5%/year to 1.5%/year compared to the normal lending interest rates of the same term of commercial banks, in accordance with the provisions of Circular 39/2016/TT-NHNN dated December 30, 2016 of the State Bank of Vietnam. In addition, the beneficiaries are also entitled to credit policies for agricultural and rural development according to Decree 55/2015/ND-CP dated June 9th, 2015 of the Government. High-tech agricultural zones, hi-tech agricultural areas, hi-tech agricultural projects, high-tech enterprises, and enterprises and cooperatives that are leading the chain of production of high-tech agricultural products can access preferential credit sources from the government.

#### **Fourthly, agricultural insurance policy**

In the spirit of Decision 315/QD-TTg issued on March 1st, 2011 on the pilot implementation of agricultural insurance for the period 2011 - 2013, the Government of Vietnam has applied a pilot program to provide insurance in twenty provinces with the participation of two large state-owned insurance companies: Bao Viet and Bao Minh. However, the program proved to be unsuccessful with very limited purchases by farmers. On April 18th, 2018, the Government continued to issue Decree No. 58/2018/ND-CP to regulate agricultural insurance marketing and support for farmers, which stipulates that the beneficiaries have expanded beyond rice and livestock, as in Decision 315/QD-TTg above, to rubber, pepper, cashew nuts, coffee, fruit trees, and vegetables. Households that are in the poor or near-poor group (classified by the government) will be supported for 90% of the insurance premium. Other households are supported up to 20% premium. Any form

of cooperation between farmers to produce on a large scale, or between farmers and businesses in the value chain applying modern technology to produce clean, safe and environmentally friendly products is supported by 20% of insurance fee.

Pursuant to the agricultural insurance support policy specified in Decree No. 58/2018/ND-CP above, the Prime Minister issued Decision No. 22/2019/QD-TTg dated June 26th, 2019 and Decision No. 03/2021/QD-TTg dated January 25th, 2021 to specify the implementation of this policy. Accordingly, the State will support agricultural insurance premiums to the maximum extent for organizations and individuals that grow rice, raise buffaloes, cows, black tiger shrimp and white leg shrimp in some areas with some certain types of risks selected for support as described in Table 2.

**Table 2: Regulations on insured subjects, areas and risks covered by agricultural insurance support**

Regulation content		Supported subject matter insurance		
		Rice	Buffalo, cow	Black tiger shrimp and Vannamei shrimp
Supported areas		Thai Binh, Nam Dinh, Nghe An, Ha Tinh, Binh Thuan, An Giang, Dong Thap	Ha Giang, Vinh Phuc, Hanoi, Thanh Hoa, Nghe An, Binh Dinh, Dong Nai, Binh Duong	Ben Tre, Tra Vinh, Soc Trang, Bac Lieu, Ca Mau
Covered risks are supported	Disaster	Storm; tropical depression; whirlwind; lighting; heavy rain; flood; flash floods; flooding, landslides caused by rain or water flow; land subsidence due to rain, flood or runoff; rising water; salinization; hot; drought; harmful cold; hail; rime; earthquake; tsunami. Natural disasters must be announced or certified by a competent state agency.	Storm; tropical depression; whirlwind; lighting; heavy rain; flood; flash floods; flooding; landslides caused by rain, flood or runoff; land subsidence due to floods or earthquakes; hot; drought; harmful cold; hail; rime; earthquake; tsunami. Natural disasters must be announced or certified by a competent state agency.	Storm; tropical depression; whirlwind; thunder; heavy rain; flood; flooding; landslides caused by rain, flood or runoff; land subsidence due to rain, flood or runoff; rising water; salinization; hot; drought; hail; earthquake; tsunami. Natural disasters must be announced or certified by a competent state agency.
	Disease	Yellow dwarf, leaf curl dwarf, black stripe dwarf, blast, and leaf blight disease; brown planthoppers, stem borer. The epidemic must be announced or confirmed by a competent state agency.	Foot-and-mouth, and anthracnose disease. The epidemic must be announced or confirmed by a competent state agency	Not supporting disease risks for black tiger shrimp, Vannamei shrimp

Source: Decision No. 22/2019/QD-TTg of the Prime Minister

## 2. Issues for fiscal policy for climate change adaptation in agriculture sector

### 2.1. For tax and fee policy

VAT and corporate income tax incentives have not really supported agricultural establishments with climate change adaptation. The level of incentives for investment in the production and use of eco-friendly items, environmental clean-up projects, and socialization in the field of environmental protection is still not high. There are still many gaps in the determination of the scope of subjects



eligible for agricultural investment incentives and the conditions for applying corporate income tax incentives to investment projects.

In addition, the law on reduction greenhouse gases have not been issued while the current environmental protection fees have not succeeded in encouraging waste treatment; supporting the cost of cleaning up the environment. Revenue from these fees is very limited. At the same time, the tax rates, fees and sanctions levied sanctions on activities causing environmental pollution are not strong and drastic enough to improve the impact on the environment protection.

### ***2.2. For investment policy***

There is still an overlap in the state budget expenditures for environmental protection and expenditures from the Environmental Protection Fund. The operation of the Environmental Protection Funds in many localities is inefficient because the Fund's operating expenditures are mainly from the State budget, and mobilized sources from outside are limited.

State budget expenditures for disaster mitigation and recovery are taken from various expenditure items such as expenditures on economic non-business activities, budget reserve expenditures, financial reserve expenditures, state reserve expenditures, social security expenditure, and target program expenditures, but there is no budget line on state budget spending for prevention, response and overcoming of consequences of natural disasters related to climate change. As a result, it becomes difficult to implement and differentiate state budget expenditures for disaster prevention, response or recovery, which leads to difficulties in monitoring state budget expenditures for disaster mitigation and remediation in expenditure items.

### ***2.3. For credit policy***

Currently, although green credit is mentioned in many legal documents, decrees, and directives, there is still no overall policy framework on encouraging the development of green credit and green banking (from instruments of monetary policy, credit policy, commercial bank management policy according to environmental standards...).

In addition, the beneficiaries of agricultural preferential loans are limited. Specifically, those who want to access preferential capital for high-tech agriculture must satisfy the criteria of Decision No. 738/QD-BNN-KHCN dated March 14th, 2017, while this Decision only provides setting out criteria for objects directly engaged in high-tech agricultural production. Meanwhile, in order to develop hi-tech agriculture, the product consumption market (production and supply chain) is also decisive. Therefore, only giving preferential loans to those directly producing but ignoring the rest of the stages in the supply chain also makes it difficult for the development of high-tech agricultural production. The number of linkage models is still small and inefficient, so it is difficult to access preferential credit capital.

### ***2.4. For agricultural insurance policy***

The beneficiaries of agricultural insurance premium support are mainly poor and near-poor households and are limited to a few plants and animals in some localities, while poor and near-poor households have very low ability to apply technology in production; moreover, many crops that

have advantages in development but are susceptible to risks from weather factors and diseases such as vegetables and flowers are not included in the list of products covered by agricultural insurance.

In addition, the time to implement agricultural insurance premium support for crops, livestock and aquatic products according to current regulations in Decision No. 03/2021/QĐ-TTg dated January 25th, 2021 is only extended by one year (to the end of December 31st, 2021) compared with Decision No. 22/2019/QĐ-TTg dated June 26th, 2019. This creates a legal vacuum on the implementation of agricultural insurance premium support after 2021.

Besides, Decree No. 58/2018/ND-CP stipulates that the areas eligible for agricultural insurance premium support are the provinces and cities in the main production regions in the direction of restructuring the agricultural sector, planning agricultural development. However, currently, the Prime Minister has only allowed agricultural insurance premium support for 7 rice growing localities (Thai Binh, Nam Dinh, Nghe An, Ha Tinh, Binh Thuan, An Giang, and Dong Nai) Thap), 8 localities raising buffaloes and cows (Ha Giang, Vinh Phuc, Hanoi, Thanh Hoa, Nghe An, Binh Dinh, Dong Nai, Binh Duong) and 5 localities raising black tiger shrimp and white leg shrimp (Ben Tre, Tra Vinh, Soc Trang, Bac Lieu, Ca Mau).

### 3. Some recommendations

To improve the succeed on implementation of the Strategy and National Plan on Climate Change, it is necessary to focus on implementing the following solutions:

*Firstly*, integrate climate change into plans and strategies for the development of the agricultural sector at both short, medium and long-term levels; strengthen planning associated with resources on climate change; review and re-evaluate the current system of fiscal policies to support the agricultural sector to adapt to climate change to integrate policies to ensure appropriateness, effectiveness, and avoid spreading. The policy review should also be carried out in association with the restructuring of state budget revenues and expenditures to determine the priority order.

*Secondly*, amend and complete the Law on Environmental Protection Tax in the direction of expanding the taxable areas/objects to cover all products and goods that, when used, cause adverse impacts on the environment such as chemical fertilizers, detergents, growth stimulants... In addition, it is necessary to study and develop collection policies for gas causing environmental pollution.

Accordingly, a carbon tax is a generalization of a gas tax, levied on all carbon-generating activities, including coal and natural gas. A carbon tax can help protect the atmosphere and prevent the most harmful and risky energy extraction activities by limiting and minimizing their profitability. Currently, a number of countries around the world have applied a carbon tax and is expected to be one of the important solutions to environmental protection.

*Thirdly*, add incentives for exemption and reduction of personal income tax and corporate income tax for a number of subjects in order to attract intellectual and financial resources of individuals to participate in the agricultural development process. In addition, the transfer of a number of items that are not subject to VAT such as fertilizers, offshore fishing vessels and a number of specialized machinery and equipment for agricultural production (including plows, harrows, transplanters, seeders, threshers, harvesters, combine harvesters, agricultural product harvesters,

pesticide pumps or machines) to VAT at the rate of 5%; transferring other types of machinery and equipment to the object of VAT at the normal tax rate of 10%

*Fourthly*, research and review expenditure policies and spending contents related to climate change in order to restructure the state budget. In which, it is necessary to ensure an increase in the proportion of budget expenditures for environmental protection in the total annual state budget expenditure, and consider increasing the proportion of budget provisions for disaster mitigation and recovery or supplementing expenditures for prevention and overcoming of consequences of natural disasters or expenditures on climate change response in the central budget and local budgets, and at the same time, allow this expenditure to be transferred to create a budget source to respond to climate change.

*Fifthly*, expand and increase support for large-scale commodity agricultural producers with more extensive crop and livestock products; at the same time, study and develop disaster insurance policies in order to create timely financial resources for the response to damage caused by natural disasters. Insurance is the factor that makes the change, and provides an important mechanism by which markets signal changes in risk. By valuing risk, markets create incentives for individuals, companies and governments to take risk mitigation measures, including mitigation and adaptation measures.

*Sixthly*, expand the participation of the private sector in climate change response and adaptation by the local Financial Self-Help Fund. The resources of this fund are not only the state budget but also other resources such as compulsory and voluntary contributions of people and businesses in the area.

The formation of this fund will ensure that financial resources are concentrated and maintained at the necessary level and with greater stability; at the same time, this fund can use the contributions of people who are not at risk of natural disasters to pay for those who are at risk. However, it is also necessary to have a strict management and use mechanism to ensure effective use of the fund.

*Finally*, enhance transparency, efficiency and accountability in mobilizing and using climate change funding sources in order to create trust for donors, as well as ensure a solid financial mechanism to proactively respond to climate change, promote economic growth and sustainable development.

## **CONCLUSION**

Over the past time, in order to gradually restructure and transform the growth model from breadth to depth towards greening, many policies on supporting the sustainable agriculture have been designed and promulgated, including fiscal policy for climate change adaptation. By tax, investment, credit, agricultural insurance tools, fiscal policy affirms an important position in the process of renewing the growth model of the agricultural sector towards climate change adaptation in a sustainable way. To overcome some limitations and improve the effectiveness of these policies, the State needs to optimize the ability to simultaneously mobilize domestic and international resources on the basis of experience drawn from practical implementation in the last period, and lessons learned from leading countries in climate protection.

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## **MANAGEMENT OF THE ESTABLISHMENT AND USE OF FINANCIAL FUNDS AT THE STATE AUDIT OFFICE OF VIETNAM**

**MSc. Nguyen Thanh Hue<sup>1</sup>**

**Abstract:** *The article investigates the establishment and use of financial funds at the State Audit of Vietnam in accordance with content and usage standards during the period of 2016-2020. The article uses statistical and survey methods to evaluate the management of funds according to each detailed content. After analyzing the achieved results, shortcomings and causes, the article has proposed a number of solutions for stakeholders to more effectively manage the financial funds of the State Audit Office of Vietnam in the future.*

*Keywords: financial funds, state audit*

### **1. INTRODUCTION**

For state agencies in general and State Audit of Vietnam (SAV) in particular, managing and using 4 financial funds mainly include: Emulation and Reward; Welfare Fund; Supplementary Income fund and Income Stabilization Reserve Fund

- The Emulation and Reward Fund is established to organize emulation movements and implement policies and regimes on Reward. The emulation and Reward fund is formed from the state budget, from the reward fund of enterprises and economic organizations, contributions of domestic and foreign individuals and organizations and other lawful revenue sources. It is strictly forbidden to use emulation and Reward funds for other purposes.

- Welfare Funds are established for the construction and repair of welfare works; spending on collective welfare activities of employees in the unit; allowances for unexpected difficulties for employees, including retirement or loss of strength; spending more in staff in order to simplify payroll.

- Supplementary Income Fund and Income Stabilization Reserve Fund are established to supplement income for employees in the year and provision for additional income for employees in the following year in case income sources are reduced. .

*Requirements for the management of the establishing and use of funds*

- Emulation and Reward Funds: According to Decree 91/2017/ND-CP dated July 31, 2017 of the Government detailing the implementation for a number of articles of the Law on Emulation and Reward, the Emulation and Reward Fund shall be formed from the State Budget with a maximum amount of 20% of the total salary fund according to the ranks and grades of cadres, civil servants

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and public employees in the State Budget. Their payroll and wages are approved for the whole year and from the contributions of individuals and organizations. The Emulation and Reward Fund is used to pay for the organization and implementation of the emulation movement and to pay prizes for emulation titles and Reward forms for achievements in the renovation period [6].

- Welfare Fund: According to Decree 130/2005/ND-CP dated October 17, 2005 of the Government on the regime of autonomy and self-responsibility for the use of payroll and administrative management funds for employees. As prescribed by state agencies, the Welfare Fund is supplemented from the savings in administrative management expenses assigned to implement the autonomy regime. It is used to pay for nursing leave support for cadres, civil servants and employees; health examination expenses; expenditure on visits, filial piety and foreign affairs; payment of unexpected hardship allowances... The establishing and use of the welfare fund must be agreed between the head of the agency and the agency's trade union [7].

- Supplementary Income fund: Also according to Decree 130/2005/ND-CP dated October 17, 2005 of the Government stipulating the appropriation of funds for supplementing income from savings from administrative management budgets assigned. This fund is entitled to supplement income for cadres and civil servants: agencies implementing the autonomy regime may apply the coefficient to increase the maximum salary fund not more than 1.0 times compared to the salary level of the rank and position which was prescribed by the State to pay additional income for officials and civil servants. On the basis of the total amount of funds allowed to be spent, the agency implementing the autonomy regime shall decide on a plan to pay the additional income for each cadre and civil servant (or for each dependent department) on the principle that they must attach with the efficiency and work results of each person (or of each subordinate department) [7].

- Income Stabilization Reserve Fund: When the capacity to preserve money is deemed insecure, the agency in charge of executing the autonomy regime may establish a reserve fund to help officials and public workers maintain their salary. According to the provisions of Decision No. 1006/QĐ-KTNN dated June 26, 2017 on the Regulation on Internal Expenditure of the State Audit, the amount of money saved and not yet used up at the end of the year will be transferred to the Reserve Fund for Stabilization of Revenue [11].

The management and use of funds according to the regulations that have been set out has great significance for the financial management as well as the implementation of the regime for officials and employees at state agencies. Especially with units performing inspection tasks such as the State Audit. The current situation shows that the establishing and use of these funds still has disadvantages, causing a waste of financial resources. The study of solutions for the management of financial funds at the State Audit Office of Vietnam is of great significance to this agency as well as a lesson learned for other state agencies in the State Audit in improving the efficiency of using the allocated funds.

The following part of the paper is structured as follows: Part 2 is an overview of previous studies, part 3 is methods and data, part 4 is the results and part 5 offers some solutions.

## 2. RESEARCH OVERVIEW

Author Nguyen The Anh in the doctoral thesis completed in 2021 *Implementing the law on emulation and Reward funds in Vietnam today* [1] has studied the overview of the implementation of the emulation law , Reward in Vietnam for the period 2015-2020 and assessment of the implementation of the law on economic corporations in the organization and implementation of emulation movements are still formal, haven't gotten around to ensuring the emphasis , and have not yet attracted attention. Besides, the establishment and operation of emulation clusters and blocks has not been really effective. Propaganda and dissemination of the law on economic corporations is still limited, individuals and collectives are not aware of the correct position and meaning of the implementation of the law on economic corporations, leading to low efficiency. The application of legal provisions on reward has not been effectively implemented.

In order to well implement the law on emulation and Reward in Vietnam, it is necessary to implement synchronously the following solutions: *Firstly*, raise awareness in the implementation of the law on emulation and Reward; *Secondly*, continue to improve the legal system of emulation and Reward; *Thirdly*, improve the quality and renovate the activities of the Economic Councils at all levels and agencies in charge of emulation and Reward; *Fourthly*, improve the quality of the contingent of officials engaged in emulation and Reward work; *Fifthly*, continue to invest in material and technical foundations, apply information technology in the implementation of the law on emulation and Reward; *Sixthly*, strengthen inspection, examination, supervision and handling of complaints and denunciations in the implementation of the law on emulation and Reward; *Seventhly*, strengthen international cooperation in the implementation of the law on emulation and Reward.

Author Do Lam Phuong in the 2015 Thematic Report *Evaluation of the regulations on the management and use of emulation and Reward funds at Lilama Joint Stock Company* [3] made basic assessments from the establishing and management of emulation and Reward funds of the Company and affirms that this Regulation is established for the purpose of year-end Reward or regular and extraordinary bonuses for individuals, employees, and units of the Company, on the basis of public achievements, labor productivity of each individual officer, employee, or collective unit in the Company every year and each emulation campaign. The author has recommended some options for managing the fund efficiently and successfully in the future based on the analysis of certain real facts on the fund's spending.

Author Nguyen Duc Kha with the article *Welfare for employees in enterprises in Vietnam: Situation and solutions* [2] analyzed corporate welfare, contributing to attracting and ensuring workers' mental well-being at work, building corporate culture, demonstrating corporate social responsibility. These are the core factors that make up the value and brand of the business in the modern market economy, improve the competitiveness and efficiency of the business. Thus, investment in welfare is investment in reproduction, expansion of human resources of enterprises, investment in core values and image and brand of enterprises in the market. These are investments for businesses to develop stably and sustainably. The leaders and managers of the enterprise will be well aware of this so as not to fall into the immediate profits, but to take care of the long-term development of the business. The source to deduct the enterprise welfare fund from profits, depends directly on the production and business results of each enterprise. Therefore, the overall

solution to develop corporate welfare is to improve the business and investment environment, and create favorable conditions for enterprises to develop.

Author Nguyen Thi Xim in the Master thesis completed in 2018 *Establishing a reserve fund to overcome limitations in funding allocation* [5] stated the necessity when establishing and using reserve funds for each agency and organization, especially the income stabilization reserve fund, because the income of officials and employees must be guaranteed when there are external factors affecting such as the market, prices, and inflation. The author also proposed some solutions to save recurrent expenses to increase the source of provision for stable income for agencies and organizations.

Author Tran Le Van with the article *The use of income stabilization fund to pay additional income* [4] analyzed some cases in the balance of supplementary income fund at units that self-finance a part of recurrent expenses. According to the analysis, in case the unit establishes an affiliated non-business organization to independently account the revenue and expenses of services, the difference between revenue and expenditure is larger than the expenditure on service activities used in accordance with regulations, which may deduct funds and pay additional income for officials, employees and employees. In case an affiliated non-business organization is not established for independent accounting of revenues and costs of services, the revenues shall be aggregated into the revenue sources of the unit. If the difference between revenue is larger than expenditure on regular activities and tasks ordered by the State, the unit can use it according to the order specified above to deduct funds and pay additional income for officials and public employees.

### **3. DATA AND ANALYTICAL METHODS**

#### **3.1. Data**

- Sources of data on the actual situation of establishing and using funds of the State Audit of Vietnam in the period 2016-2020 from Financial Statements, Finance Department and State Audit Office

- Data on actual economic data from a survey of staff working at SAV.

#### **3.2. Analytical method**

- Descriptive statistical method is used with data on the actual establishing and using funds of funds at the State Audit Office

- The survey method is carried out to evaluate the actual situation of establishing and using funds at the entity.

The author has designed a survey on a 5-point Likert scale to assess the effectiveness/appropriateness of the use of funds at the State Audit Office of Vietnam with the following levels:

1. Ineffective/appropriate
2. Less effective/appropriate
3. Effective/appropriate
4. Very effective/appropriate



5. Extremely effective/appropriate

Then the author uses the average value to give out an assessment.

$$\text{Average Value} = \frac{\sum_{i=1}^5 \text{Number of votes for } i * i}{30}$$

The contents of the survey are shown in the following table:

**Table 1. The contents of the survey**

No	Content of funds used
1	Level of Reward
2	Recipients of reward
3	Level of lunch payment from the welfare fund
4	Level of support for nursing leave from the welfare fund benefits
5	Level of health check from the welfare fund
6	Level of visitation from the welfare fund
7	The maximum amount of quarterly temporary payment not exceeding 60% of the agency's quarterly salary fund
8	Adjustment of income payment increases added at the end of the year
9	The payment of additional income for cadres, civil servants and employees must not exceed 1.0 times the current salary level
10	The amount of savings to be transferred to the revenue stabilization reserve Fund

#### 4. ACTUAL SITUATION OF ESTABLISHING AND USING FUNDS AT THE STATE AUDIT OF VIETNAM

##### 4.1. Actual situation through aggregated data from reports

Currently, the State Audit is managing and using 4 funds including: Emulation and Reward Fund; Welfare Fund; Supplementary Income fund; Income Stabilization Reserve fund.

**Table 2: Amount put in reserve and used by the House Auditor In the 2016-2020 period**  
(source: Author's synthesis from the State Auditor's Office [8])

*Unit: million VND*

No.	Name of Funds	2016	2017	2018	2019	2020
1	Beginning balance	30,950	31,498	32,529	34,047	36,150
1.1	Emulation and reward	6,467	6,855	7,088	8,299	8,948
1.2	Welfare fund	2,509	2,501	3,210	3,474	2,925
1.3	Additional fund income	1,098	-	-	1,597	-
1.4	Provision fund for income stabilization	20,876	22,142	22,231	20,677	24,277
2	Deductions for the year	39,898	45,867	49,014	51,434	46,328
2.1	Emulation and reward fund		7,653	10,730	9,045	9,475
2.2	Welfare fund	11,090	13,587	14,099	13,006	13,776
2.3	Supplementary Income fund	19,889	21,884	25,870	24,098	23,077

2.4	Income stabilization reserve	1,266	2,587	-	3,600	-
3	Amount used during the year	39,350	44,836	47,496	49,331	45,446
3.1	Emulation and reward	3.2	7,834	10,081	8,606	7,265 7,576
Welfare	Fund Profit	11,098	12,878	13,835	13,555	13,763
3.3	Supplementary Income fund	20,987	21,884	24,273	25,695	23,077
3.4	Income stabilization reserve fund	-	2,498	1,554	-	-
4	End balance	31,498	32,529	34,047	36,150	37,032
4.1	Emulation and reward	f u n d 6,855	7,088	8,299	8,948	9.817
4.2	Welfare fund	2,501	3,210	3,474	2,925	2,938
4.3	Supplementary Income fund	-	-	1,597	-	-
4.4	Income stabilization	22,142	22,231	20,677	24,277	24,277

The data on establishing and using the Funds, in the period 2016-2020, shows that there are not many fluctuations, the data between years has no significant increase or decrease. As analyzed above in the organizational structure, the payroll in this period of the State Audit is stable, so the amount of administrative expenses does not change much, so the savings from this budget to establish and use the financial resources are not much. The fund also has relative stability.

- The Emulation and Reward Fund: each year the amount put in reserve and the demand for use fluctuates from 7 to 9 billion VND, in 2019 alone, the number used is 10,081 million VND, an increase of 28.68% compared to 2018 because 2019 is the year celebrating the 25th anniversary of the establishment of the state audit sector, there should be more emulation and Reward activities to celebrate this event.

- The Welfare Fund and the Supplementary Income Fund: the use of which depends a lot on the amount deducted in the year, the balance of the Fund is just a small amount. In particular, the Supplementary Income Fund is often used up and has no balance because the State Audit's policy of supplementing income often uses up all the money of this Fund, the rest is taken from the 5% budget of the State Audit.

- The income Stabilization Reserve Fund is deducted from the unused savings fund, because the State Audit Office, in addition to the additional source of income from the Supplementary Income Fund, also has a funding source of 5%, so the State Audit does not use much of this fund, leading to Fund balance in years is still relatively large, the balance at the end of 2020 is 24,277 million VND.

#### 4.2. Actual situation through surveys and interviews

The author sent a survey with 10 questions to get opinions of 30 officials working at the State Audit Office about their assessment related to the contents of management of SAV funds. The number of votes collected is 30, reaching 100%, the results are aggregated as follows:

**Table 3. Summary of survey results**

No	Content of using funds	Number of selections according to 5 levels					Total number of votes	Average
		1	2	3	4	5		
1	Level of Reward	0	0	21	9	0	30	3.30
2	Recipients of reward	0	0	24	5	1	30	3.23
3	Level of lunch payment from the welfare fund	0	16	14	0	0	30	2.47
4	Level of support for nursing leave from the welfare fund benefits	0	21	7	2	0	30	2.37
5	Level of health check from the welfare fund	0	23	5	2	0	30	2.30
6	Level of visitation from the welfare fund	0	19	6	5	0	30	2.53
7	The maximum amount of quarterly temporary payment not exceeding 60% of the agency's quarterly salary fund	0	0	27	3	0	30	3.10
8	Adjustment of income payment increases added at the end of the year	0	0	26	2	2	30	3.20
9	The payment of additional income for cadres, civil servants and employees must not exceed 1.0 times the current salary level	0	0	18	9	3	30	3.50
10	The amount of savings to be transferred to the revenue stabilization reserve Fund	0	8	15	7	0	30	2.97

*Source : Complied by the author*

**If the average value of an item reaches any level of the Likert scale, the item can be classified as receiving the rating value on the Likert scale.**

- Of the 10 contents of fund use that were evaluated on the effectiveness/appropriateness of the management of such expenditures, 5/10 contents were evaluated with an average score from 3.00 to 3.50 points, corresponding to the rating from "effective/appropriate" to the threshold of "very effective/appropriate". These contents include: Reward level (3.30 points); The Recipients of reward with 3.23 points; The maximum level of temporary payment for each quarter shall not exceed 60% of the agency's quarterly salary fund ( 3.10 points); Adjustment of additional income payment at the end of the year (3.20 points) and the Payment of additional income for cadres, civil servants and employees is not more than 1.0 times the current salary gains 3, 50 points. It can be said that for the part of the surveyed contents about policies, general spending levels, gained rate of effective/appropriate with reality by surveyed officials.

- For the remaining 05 contents of using funds, the average score is less than 3.00 points, corresponding to the level of assessment as "less effective/appropriate", namely: Level of lunch

from the welfare fund (2.47 points) ; The level of support for nursing leave from the welfare fund (2.37 points; Health check-up from welfare fund (2.30 points); The level of visitation spending from the welfare fund (2.53 points) and the amount of money saved is transferred to the provision fund for stabilizing income (2.97 points). Thus, the surveyed officials assessed that the expenditures from the welfare fund were not suitable with market prices and the living standards of workers, which should be improved in the coming time.

In fact, in the internal spending regulations, these expenditure levels are still modest such as: 30,000 VND/person/day for lunch; The maximum allowance for nursing leave is 1,500,000 VND/person/year; Expenses for annual health check up to a maximum of 500,000 VND/person/year; Expenses for visitation, filial piety and foreign relations are from 500,000 VND to 1,000,000 VND/person... so, it can be seen that the current high cost level is still modest, not reach the level of economic support, helping officials and employees.

### **4.3. Achieved results, limitations and causes**

#### ***a) Achievements***

Internal spending regulations according to Decision No. 1006/QD-KTNN dated June 26, 2017 of the State Auditor General [11] stipulated define clearly and in detail the principles, standards and norms of expenditures such as: Expenses and rewards for outstanding collectives and individuals; Lunch expenses for cadres and civil servants; Expenses for nursing leave support for officials and civil servants; Annual health check-up expenses; Expenses to support activities of Trade Union, Youth Union; Expenses for visiting, filial piety and foreign affairs; Expenditure on subsidies for unexpected difficulties... Expenditure levels are public and transparent, and when used, there are sufficient documents and records to ensure that the expenditure is used for the right subjects and in accordance with the prescribed norms.

- Expenditure norms developed by the State Audit are consistent with the guidance in Joint Circular No 71/2014/TTLT-BTC-BNV dated May 30, 2014 of the Ministry of Finance and the Ministry of Home Affairs on Regulations on autonomy and self-responsibility for the use of administrative management funds for state agencies and other guiding documents related to each expenditure of the Ministry of Finance.

#### ***b) Limitations and causes***

The funds put in reserve and used, in addition to the Emulation and Reward Fund, which is formed from the state budget, the remaining funds are the Welfare Fund, the Supplementary Income Fund, and the Income Stabilization Reserve Fund. Provisions for income stabilization are supplemented from savings in administrative management expenses assigned to implement the autonomy regime. Therefore, the amount put in reserve, the amount used and the balance of the years depends a lot on the administrative management budget saved each year.

In Table 2, we can observe that the aggregate data of 04 funds shows that the total balance of funds from 2016 to 2020 has increased from 31,498 million VND to 37,032 million VND. However, the annual savings did not increase significantly. This reflects that the amount of administrative management expenses saved each year by the State Audit is not high because it

has not yet saved items such as electricity, water, fuel, stationery, telephone, conference expenses, repair, etc. procurement of materials and assets...

## 5. SOLUTIONS

In order to increase the amount of annual appropriation and use of funds, agencies in general and the State Audit in particular must have many measures to thoroughly save administrative cost. In addition, strengthen propaganda to raise awareness and responsibility for cadres, civil servants, public employees and employees. The following specific actions can actively practice thrift and reducing waste:

*Firstly, save electricity:* To save electricity for lighting and air conditioning by using fans instead of air conditioners when it is not too hot; When the temperature is high, it is recommended to turn on the machine after the first 30 minutes of working hours and turn off the machine before the end of working hours 30 minutes, use the timer mode, automatically disconnect the power or actively disconnect the power, the temperature is from 26°C to 28°C and close the room door. It is possible to gradually replace the current photosensitive light bulbs with an economical LED system, reduce the existing bulbs and alternately use induction light bulbs for corridors from the 2nd floor upwards and restrooms; use solar lights in the lobby, garden and corridor on the 1st floor. At the same time, set a timer to automatically turn on and off depending on the needs of use at each location. Gradually replace other electrical machinery and equipment products with super power-saving features; regularly check the electrical system, check the power transmission line to ensure the prevention of electric leakage that is dangerous to people and reduce the loss of electricity.

*Secondly, save water:* In order to save water, it is necessary to check the water system, timely replace good quality equipment and materials to minimize water leakage; proactively meet, propagate, remind visitors and staff of the cleaning service company to be conscious of saving water use. Integrate the slogans “Please keep the common hygiene”, “Please save electricity and water” in places where people can easily see and follow.

*Thirdly, save on stationery:* For paper, documents should be printed on 2 sides of paper, this saves 50% of paper consumption in the usual way. Counselors should carefully check the format, content, grammar, and spelling errors on the document before printing to limit the number of ruined printed pages; For errored ruined printed paper, it is possible to make use of the empty sides of the paper to draft or cut to a small size to make note paper (instead of yellow paper). For reference documents that need to be printed or documents that need to be consulted, the font can be set, and the margins are reduced to reduce the number of pages to be printed. Currently, some documents are sent via the intranet. Public servants should research on computers, refine information, and briefly list content to take notes in a notebook in order to limit unnecessary printing. On the other hand, each individual and department should equip a carton of errored printed paper so that individuals can reuse or share it so that everyone in need can reuse it together. Equipping 2-sided printers to gradually replace current old printers to save time and printing paper.

*Fourthly, save costs of information and communication:* Currently, Zalo application software is trusted by many Vietnamese people because it has many utilities that allow chatting, texting, and calling for free...; The software is very suitable for creating groups, helping departments and

divisions to send information or receive feedback from members in the fastest way. With the advantage that the majority of officers and employees of the Office already have Zalo accounts, it is easy to contact, call, text, and send documents completely free of charge, which means a significant reduction in the frequency of using the phone service for work, which saves a lot of monthly phone costs.

*Fifthly, save fuel:* The arrangement of cars for work is based on specific work plans, combined with groups of many people; can combine multiple tasks; the route, working location, if coordinated to arrange shared vehicles, will help reduce fuel use and save considerable costs for the agency's budget.

In addition to saving solutions to increase the annual amount of funds deducted, the use of funds must also ensure the right recipients, the right content, the payment vouchers must be comprehensive, reasonable, and legitimate in accordance with legal documents and regulations of the State.

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# EXTRACTION RATE OF BAUXITE FOR SUSTAINABLE DEVELOPMENT IN VIETNAM

PhD. Nguyen Thi Thuy Huong<sup>1</sup>

**Abstract:** *Bauxite is the raw material used in aluminum production. The article presents the of Bauxite reserves in the world and in Vietnam, economic characteristics of Bauxite, definitions well as periods of sustainable development. Vietnam is at low sustainable development, based on the length of this period in Vietnam as well as the reserves for sustainable development. Besides, the article also proposes the extraction rate of bauxite in Vietnam which can be applied when planning Bauxite extraction in in Vietnam with a high level of reliability.*

**Keywords:** *rate, extraction, bauxite, sustainable development*

## 1. RATIONALE OF THE STUDY

Vietnam is one of the three countries with the largest Bauxite reserves in the world (Guinea, Australia, Vietnam). Because Bauxite is a limited, non-renewable resource (it is called an Exhaustible Resource (ER)), so when it is extracted, there will be conflicts of interest between generations: If it is extracted too much for rapid business growth, the interests of future generations will be harmed, and vice versal, if we want to protect the interests of future generations, we need to extract less, which will result in slow economic growth.

In 2018, the author established a mathematical model between two factors of ER, which are depletion indicator (T) and extraction rate ( $\alpha$ ). Using that model, the author has resolved the dilemma mentioned above in Vietnam's Bauxite extraction.

## 2. INTRODUCTION

### 2.1. Price characteristics of mineral resources (ER)

To formulate the price of ER, an objective function can be established as follows: (1) [1]:

$$\sum_{t=0}^T [P_t y_t - C(y_t, \ddot{x}_t)] (1 + \rho)^{-t} \rightarrow \text{Max} \ddot{x} \quad (1)$$

Within (1):

$P_t$  : Price of ER when extracted at year t

t : extraction period (t = 0, T)

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$y_t$  : quantity of ER being extracted at year  $t$  (T/year)

$C$  : cost of extraction ER

$x_t$  : stock of ER supply at year  $t$

$x_0$  : initial stock of ER supply

$x_T$  : stock of ER at the end of extraction period  $T$

Constraints of equation (1) are:

$$+ \ddot{x}_0 = \overline{\ddot{x}}_0 + \mathbf{X}_T = \overline{\mathbf{X}}_T$$

$$\sum_{t=0}^{T-1} y_t = \sum_{t=0}^{T-1} (\ddot{x}_t - \ddot{x}_{t+1})$$

Within (1), noting that:

+  $P_t y_t$ : Price of ER at year  $t$ .

+  $C(y_t, x_t)$ : cost of extraction ER at year  $t$ .

Depending on  $y_t$ : the quantity of ER being extracted at year  $t$  and  $x_t$ : stock of ER supply at year  $t$

+ Paying special attention to the above constraints. These constraints represent the characteristics of ER.

Solving the above problem we have the following result:

$$P_t = MC + \mu(1 + \rho)^t. \quad (2)$$

Within (2):

$P_t$ : price of ER at year  $t$

MC : Marginal cost  $\left( MC = \frac{\partial C}{\partial t} \right)$

$\mu(1 + \rho)^t$  : Undiscounted costs, in which:

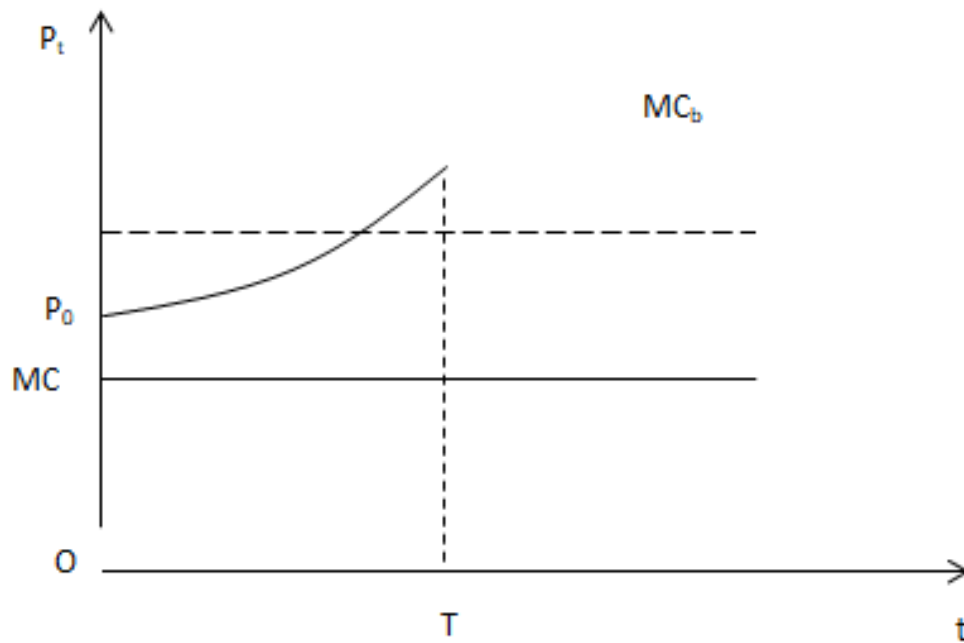
$\mu$  : Lagrange multiplier (the problem was solved using the Lagrange method)

$\rho$  : discount rate (interest rate).

From (2), it can be seen that: ER price is an exponential function of time ( $t$ ). In other words,  $P_t$  will increase a lot if extraction time of ER is pushed back to the future.

Price of ER is depicted in diagram 2.1:





**Diagram 2.1. Patterns of ER prices over time**

Source: Le Thi Huong (1999). *Environmental economics*. Statistical Publishing House.

According to diagram 2.1,  $P_t$  increases exponentially of  $t$ ;  $P_t$  only stops at  $MC_b$ ;  $MC_b$  is the marginal cost of the alternative resource (backstop resources).

**2.2. Bauxite reserves in the world and in Vietnam**

According to USGS (United State Geological Survey) in 2019, the Bauxite reserves worldwide are shown in Table 2.1.

**Table 2.1. Quantity of Bauxite reserves worldwide**

Unit: Thousand tons

No.	Country	Bauxite reserves (thousand tons)	No.	Country	Bauxite reserves (thousand tons)
1	United States	20.000	8	Jamaica	2.000.000
2	Australia	6.000.000	9	Malaysia	110.000
3	Brazil	260.000	10	Russia	500.000
4	China	1.000.000	11	Saudi Arabia	200.000
5	Guinea	7.400.000	12	Vietnam	3.700.000
6	India	660.000	13	Other countries	5.000.000
7	Indonesia	1.200.000		Total	30.000.000

Source: Vietnam National Coal and Mineral Industries Group - Vinacomin

According to Table 2.1, Vietnam is one of the three countries with the largest Bauxite reserves in the world, which are Guinea, Australia, and Vietnam.

Particularly in Vietnam, in 2007, according to Vietnam National Coal and Mineral Industries Group – Vinacomin, when making “the zoning plan for exploration, mining, processing and use

of bauxite ore in the 2007-2015 period with a vision to 2025 taken into consideration”, the total reserves and resources were 5.5 billion tons, while the reserve estimated using C2 level was 4.4 billion tons (C2 represents the lowest level of confidence category of Mineral Reserve estimate among 4 categories A, B, C1, C2, which is the system for classification of reserves and resources used before 2018). Vietnam’s Bauxite reserves are concentrated mainly in Southern provinces (5.4 billion tons), while Northern provinces only have 91 million tons which are scattered in Ha Giang, Cao Bang, Lang Son and a few are distributed in the Central coast.

### 2.3. Analytical Problem

From Diagram 2.1, it is possible to establish the following formula (3)

$$\Delta = S(P_t - P_0). \quad (3)$$

In (3)

$\Delta$ : Damage to future generations due to each 5 tons of Bauxite extracted today (\$)

S : Quantity of ER being extracted (T)

$P_t$ : Price of Bauxite at t (\$/T)

$P_0$ : Price of Bauxite at present ( $t_0$ ) (\$/T)

Since  $P_t$  is an exponential function of t,  $P_t$  is very high.

Assumption: For today’s economy to grow fast, it is necessary to extract more Bauxite (increase S), the more S increases, the greater the damage to the next generation ( $\Delta$ ) will be! On the contrary, the only way to reduce the damage to the next generation is to reduce the quantity of ER being extracted (reduce S). However, that will result in economic slowdown! The problem is finding a way to harmonize and balance the interests of the two generations, in other words, finding the most optimal extraction rate. This is the major research question posed for this paper.

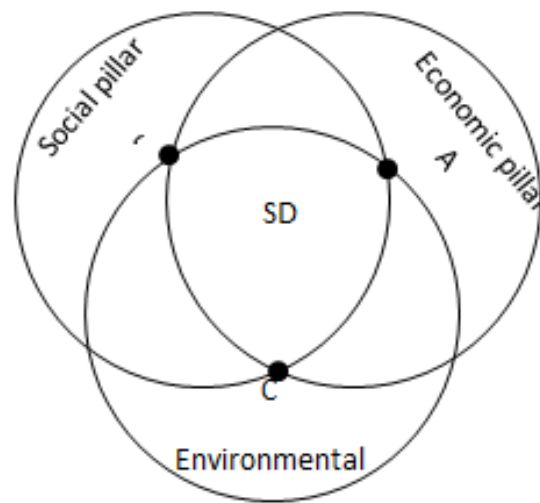
## 3. PROBLEM SOLVING

### 3.1. What is sustainable development (SD)?

Sustainable development is the trend of our time as well as the development goal of most countries in the world today. There are several widely accepted concepts of sustainable development:

+ Sustainable development is healthy development, in which the development of one individual does not damage the interests of other individuals, the development of individuals does not damage the interests of the community, the development of one human community does not damage the interests of other communities, *the development of today’s generation does not compromise the interests of future generations*, and human development does not threaten or degrade the survival of other species on the planet (Conexion, September 3, 1992).

+ Another concept proposed by two Canadian environmentalists, Jacob and Sadler, is: “Sustainable development is a harmonious integration of three pillars: economic, social, environmental pillars, which are shown in diagram 3.1.



**Diagram 3.1. Sustainable development is the integration of  $A \cap B \cap C$**

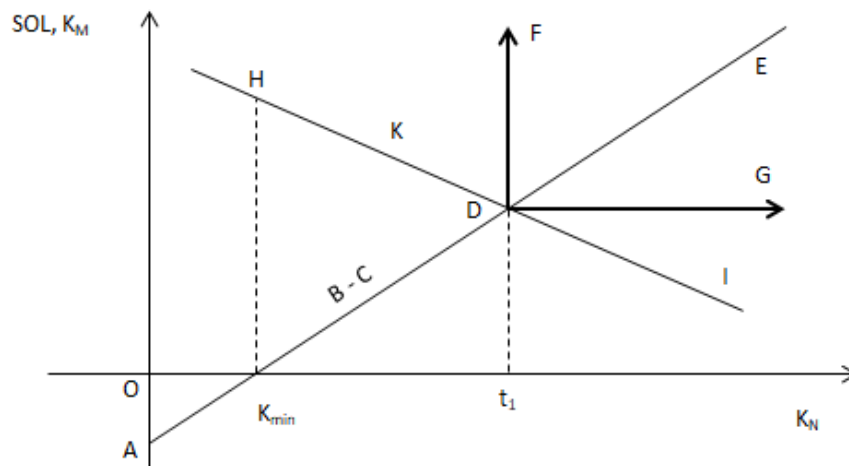
Source: Peter Jacobs and Barry Sadler (1988), *Sustainable development and environmental assessment: Perspectives on planning for a common future*. Ottawa: Canadian Environmental Assessment Research Council.

**3.2. Vietnam and low sustainable development period**

Sustainable development is divided into two periods: low sustainable development and high sustainable development. These two periods can be modeled as in Figure 2.1.

The low sustainable development period is calculated until  $t_1$ , from  $t_1$  the economy moves to high sustainable development period.

The characteristics of low sustainable development are: In order to ensure the economic growth, people have to exchange  $K_N$  for  $K_M$  and improve living standards. At high sustainable development, both  $K_N$  and  $K_M$  are extracted in the direction of DE (D is called the starting point for economic growth).



**Diagram 3.2. Two periods of sustainable development**

Source: Nguyen Thi Thuy Huong (2018). *What is a reasonable extraction rate for coal under low sustainable development in Viet Nam?* The 4th International Conference, Hanoi University of Mining and Geology

Such that:

SOL : Standard of Living

$K_M$  : Human-induced capital

$K_N$ : Natural capital

O : Minimum living standards

A : Poverty or difficult living situations

$K_{min}$  : Minimum capital storage to secure the minimum living standards

Like other developing countries, Vietnam is under low sustainable development, with rich mineral resources (coal, oil, gas, bauxite...). Vietnam is exchanging these minerals ( $K_N$ ) for  $K_M$  and improving people's living standards (50%). When will the low sustainable development in Vietnam end? According to PWC's analysis (one of the four largest auditing companies in the world), the end of this period will be 2050. According to PWC, if 2015 were used as the base year, then Vietnam's GDP would be 204 billion USD, but if GDP was converted to  $GDP_{PPP}$  (GDP based on Purchasing Power Parity),  $GDP_{PPP}$  in 2015 would be 597 billion USD. With the average annual growth rate of 5% (in reality, the average annual growth rate was over 6% in recent years, except for the two years 2020 and 2021 which were affected by Covid pandemic), Vietnam's  $GDP_{PPP}$  in 2050 would be about 3,180 billion USD, which would make Vietnamese economy to stand among the world's top 20 economies. So, if 2020 were used as the base year, then Vietnam's low sustainable development would be still 30 years away.

### 3.3. Depletion indicator of ER

As exhaustible resources, each type of mineral resource can only be extracted for a certain period of time, and that the length of that period is called the "depletion indicator". Depletion indicator can be calculated using the following formula (4):

$$T = \frac{Q}{S} \quad (4)$$

Such that:

T : Depletion indicator (year)

Q : The total quantity of a resource reserve (T)

S : Annual quantity of ER being extracted (T/y)

Depletion indicator : It can be calculated based on the entire reserves of each mineral of a country, which is called the final depletion indicator ( $T_C$ ). It can also be calculated based on a part of the entire reserve, which is called the estimated depletion index ( $T_i$ ).

### 3.4. Formula to determine the relationship between depletion indicator (year) and extraction rate ( $\alpha$ )

In 2018, basing on the mathematical relationship between the depletion indicator (T) and mineral extraction rate ( $\alpha$ ), the author established formula (5). [2]

$$T = \frac{\text{Ln} \left[ \frac{Q}{S_0} \ln(1 + \alpha) + 1 \right]}{\text{Ln}(1 + \alpha)} \quad (5)$$

Within (5)

T : Depletion indicator (year)

Q : The total quantity of a resource reserve

S<sub>0</sub> : Quantity of ER being extracted in base year (t/n)

α: Mineral extraction rate (%)

(5) allows us to determine a reasonable extraction rate (α) of Bauxite to solve the problem posed above.

### 3.5. Solving the problem

Using (5) to solve the problem. To calculate (5), it is necessary to determine the following parameters: t<sub>0</sub>, T, Q, S<sub>0</sub>.

- t<sub>0</sub> is the base year: choosing 2020 as t<sub>0</sub>

T: if t<sub>0</sub> = 2020, low sustainable development would end in 2050, then T = 30 years.

- Q: From 3.2 and 4.2, it can be seen that Vietnam’s bauxite reserves are: 4.4 billion tons at the reserve level, and 1.1 billion tons at the resource level. Assuming that Vietnam put 3.7 billion tons of reserves into exploitation during the low sustainable development period (source: USGC data), then at the end of this period, Vietnam would still have 0.7 billion tons of reserves and 1.1 billion tons of resource to be extracted in the high sustainable development period.

So Q = 3.7 billion tons.

- S<sub>0</sub>: Currently, Vietnam has two largest projects exploiting Bauxite, which are Tan Rai (Lam Dong) and Dak Nong. After 10 years of operation, these projects have been bringing about high economic efficiency, especially in 2020 and 2021. The output of these two projects in 2020 was 7,500 thousand tons of Bauxite.

Choosing the quantity of Bauxite being extracted in year t<sub>0</sub> (2020), S<sub>0</sub> = 7,500 thousand tons

Formula (5) is rewritten with the above parameters as:

$$T = \frac{\text{Ln} \left[ \frac{Q}{S_0} \ln(1 + \alpha) + 1 \right]}{\text{Ln}(1 + \alpha)} \quad (5)$$

With T = 30 years

Q = 3,700,000 thousand tons

S<sub>0</sub> = 7,500 thousand tons

Solving the problem gives the result α = 0.15 (15% per year).

The rate  $\alpha = 15\%$  per year is the answer for the question: “Should Bauxite in Vietnam be extracted fast or slowly?”. This rate allows to balance the interests of today’s and future generations, which is one of the problems relating to sustainable development of mineral resources.

The problem has been solved!

#### 4. CONCLUSION AND RECOMMENDATIONS

4.1. If TKV apply the exploitation rate  $\alpha = 15\%$  per year in making extraction plan, it will ensure a very high level of reliability. In 2007, TKV made a plan to extract Bauxite in Vietnam [3], until now this planning period has expired. However, due to some changes, this plan needs further study and adjustment, so the Government issued Resolution 119 (September 2021), agreeing to extend the time limit for studying this plan.

4.2. During the low sustainable development period, Vietnam has only extracted 3.7 billion tons of Bauxite reserves in order to exchange natural capital KN for Human-induced capital KM and improve people’s standards of living SOL (Figure 3) , the rest 0.7 billion tons of reserves and 1.1 billion tons of resources would continue to be extracted in the high sustainable development period.

4.3. The the rate of extraction  $\alpha = 15\%$  per year is high, but it can be applied to the actual Bauxite extraction in Vietnam. In mineral extraction, the increase in output depends much on the geological conditions of the mine. It is impossible to achieve high-efficiency extraction in mines with complex geological conditions. However, the geological conditions of Vietnam’s Bauxite mines are quite simple. For example, the geological structure of Tan Rai mine (Lam Dong) includes three layers: the cover layer is from 0 - 2m, the ore layer is from 2 - 6m, the last layer is clay. The mine is extracted on an area of 16,000 hectares by open-pit mining.

4.4. In order to achieve sustainable development in Vietnam’s Bauxite extraction, in addition to determining the extraction rate mentioned above, it’s necessary to carry out further research.

(+) Environmental pillar (Diagram 2). Environmental impacts include: waste soil due to open-pit mining, destruction of soil resources (soil), sludge in ore processing...

(+) Social pillar: Employment, national security...

4.5. In the next plan, TKV needs to continue planning for exploration and accurately assess data on reserves and resources.

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# THE CURRENT SITUATION OF CROWDFUNDING FOR INNOVATIVE STARTUPS IN VIETNAM

PhD. Vu Ngoc Anh<sup>1</sup>

**Abstract:** *In the recent time, the Government has been paying special attention for supporting the Start-ups. Startups in Vietnam have been proving their potential development. However, with the nature of large business risks, lack of collateral and the ability to meet capital raising conditions, Vietnamese startups have a lot of difficulties in accessing traditional capital raising channels, such as: bank credit, securities issuance... For the innovative Start-ups, those difficulties seem to be higher. Meanwhile, the mobilization of capital through friends or relatives accounts for small size.*

*In that condition, crowdfunding is one of the effective capital mobilization channels for start-ups because this is not only a form of capital raising but also a tool to promote the project to the community.*

*This article aims to describe the current situation of crowdfunding for innovative startups and propose some solutions to expand this form of mobilization in Vietnam.*

**Keywords:** *Start-up, innovative start-up, crowdfunding, capital mobilization.*

## 1. INTRODUCTION

Recently, the support of start-ups has been paid special attention by the Party, State and Government. Startups in Vietnam have partly confirmed their development potential. However, with the nature of large business risks, lack of collateral and the ability to meet capital raising conditions, Vietnamese startups are facing difficulties in accessing traditional capital raising channels. such as: through the bank, through the stock exchange.

International experience shows that, besides direct support forms such as the Government's initial capital investment or unsecured loans, the form of crowdfunding is one of the effective capital mobilization channels for the beginning period of start-up because this is not only a form of capital mobilization but also a tool to promote the project to the community. In fact, this method has been evaluated as effective in many markets around the world, contributing to the success of many famous businesses such as Facebook, Uber, AirBnB...

In Vietnam, crowdfunding appeared since 2013 and up to now, crowdfunding activities have been more popular, with some websites... However, there are big barriers to the development of crowdfunding activities. In Vietnam, the awareness of society is still not high, people still lack

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confidence in start-up or business projects. In addition, the entrepreneurs themselves are also hesitant to publicize their projects and ideas to call for social capital help, when they are still uncertain about the success or failure of the project. In addition, the lack of a legal framework for crowdfunding is also an important reason why this activity has not had a foothold and developed in the market.

Besides, the form of crowdfunding also has many potential risks including default risk, fraud risk, transparency risk, inexperience risk, liquidity risk, and network security risks. Therefore, it is necessary to improve the legal framework on crowdfunding platforms to support innovative start-ups to raise capital and protect investors participating in crowdfunding platforms.

## 2. OVERVIEW OF INNOVATIVE START-UPS

The term *startup* refers to a company in the first stages of operations. Startups are founded by one or more entrepreneurs who want to develop a product or service for which they believe there is demand. These companies generally start with high costs and limited revenue, which is why they look for capital from a variety of sources such as venture capitalists.

Startups are companies or ventures that are focused on a single product or service that the founders want to bring to market. These companies typically don't have a fully developed business model and, more crucially, lack adequate capital to move onto the next phase of business. Most of these companies are initially funded by their founders.

Many startups turn to others for more funding, including family, friends, and venture capitalists. Silicon Valley is known for its strong venture capitalist community and is a popular destination for startups but is also widely considered the most demanding arena.

From the perspective of individual start-ups, start-ups can be classified into two main groups: (i) Creators, and (ii) individuals who establish, manage, and operate common small businesses (Wennekers & Thurik, 1999). A group of innovative entrepreneurs classified based on the theory of Schumpeter (1934), are individuals who bravely take risks, invest effort and resources to develop ideas and new business opportunities based on applying innovative and new approaches. The business goals of this group are focused on scale growth and rapid profitability. Meanwhile, the group of individuals starting a normal business mainly plays the role of managing and operating small-scale businesses, traditional business models, not using innovative business methods, and does not put growth and profit goals first.

The characteristics of innovative start-up businesses can be mentioned as:

*The first, technology.*

The operating model of innovative startups always tends to be associated with technological factors, such as the internet, software, or high-tech factors in general.

Unlike conventional businesses that are set up according to existing business models, start-ups prioritize high-speed growth and focus on developing innovative products and services. and the business model can be easily replicated. To achieve the goal of rapid growth, startups often build products and services that can be standardized based on technology and meet the needs of

international customers. This helps startups develop products towards a broader target market. At the same time, they are also under great competitive pressure from global competitors' technology changes. Therefore, they are more motivated to innovate and improve their products, thereby promoting rapid growth and capturing market share of startups.

*The second, innovative business model.*

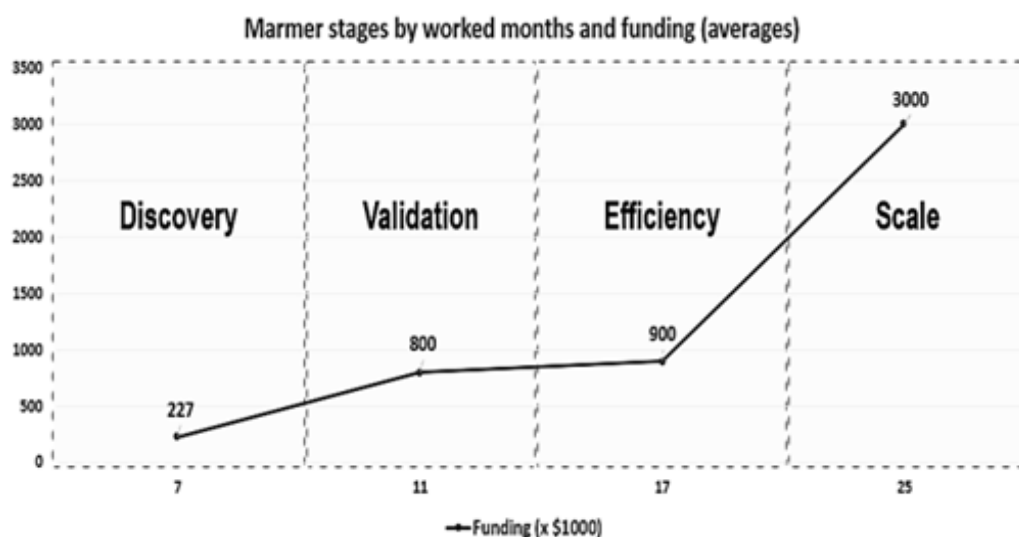
A prominent feature of startups is the adoption of business models using disruptive and innovative technologies, products, and services (Tanev, 2012). Innovative business models are also a way to maintain competitive advantage of startups (Freeman & Engel, 2007; Van Dijk et al, 2015). According to Marmer et. al (2012), innovation is reflected in four typical business models of start-ups, including: Automator, Social Transformer, Integrator, and Challenger.

*The third, high-risk factors.*

Being exposed to uncertain, high-risk factors is a hallmark of startups. In general, the highest level of risk occurs in businesses starting out. In the development process of startups, according to Garnsey (1998), the risk factor focuses on whether the startup will demonstrate the attractiveness of the experimental business model and attract enough resources as well as customer market share to stimulate growth.

The average time and resources it takes for a startup to grow through the stages of the Marmer model:

**Figure 1: Illustration of the Marmer model**



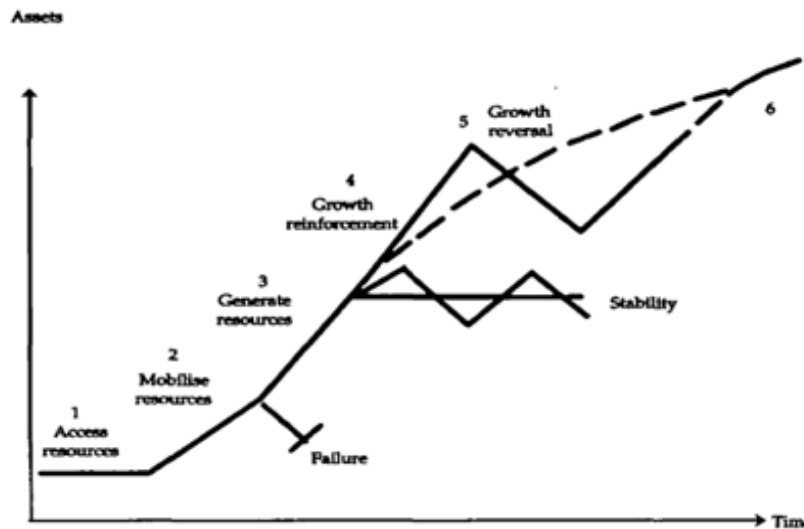
Source: Marmer et. al, 2012

*The fourth, tremendous growth potential*

The growth model of a typical business is divided by Garnsey (1998) into 5 stages, including: (1) Access to resources, (2) Mobilize resources, (3) Generate resources, (4) Stimulate growth, (5) Growth trend slows down or continues. In which, at the third stage, the newly established company begins to generate revenue and resources to reinvest to expand production and stimulate growth. The difference between conventional business startups and startups with fast growth potential

according to Garnsey (1998) lies in the third stage, when conventional businesses will enter the stable development stage while startups continue to drive growth in the next period.

**Figure 2: Illustration of Garnsey's growth model**



Source: Garnsey (1998)

### 3. DEFINITION OF CROWDFUNDING

In fact, the process of accessing funding channels and capital markets of innovative startups is quite difficult and depends greatly on the level of prestige, advocacy, and marketing of the business owner, as well as the attractiveness and feasibility of the business idea.

In the early stages of forming ideas, mobilizing financial resources from other individuals and organizations is very limited, most startups use their own capital first (also known as “insider financing”). In addition, idea creators can call for support from family, friends, relatives, and colleagues. This financial source is made in the form of capital contributions or loans. However, these forms of funding do not always fully meet the needs of startups. So that the concept and form of crowdfunding appeared.

Crowdfunding is generally understood as a collective effort in which individuals or organizations voluntarily contribute, sponsor, or mobilize financial resources to support a campaign, project, or idea. Accordingly, small-scale projects and startups are funded with contributions from a large number of individuals through networks of intermediaries. Belleflamme (2010) defines crowdfunding as: *A form of calling, mobilizing financial resources in the form of donations, loans, or exchange of shares/products to finance a projec, initiative, or specific product.* The European Commission calls crowdfunding: *An alternative form of financing that connects a party who can give, lend or invest money directly with those who need to find funding for a project. specific judgment. Crowdfunding campaigns are often widely announced on the Internet.*

Crowdfunding is also approached in the form of one of the financial alternatives compared to traditional finance from financial institutions. According to the World Bank and the Cambridge Center for Alternative Finance, alternative finance is the financial products and services that are developing outside traditional and regulated capital markets and banking sectors. These alternative

financial products work through innovative online channels, tools and systems. In which, crowdfunding is one of the alternative forms of finance.

Crowdfunding platform models all have some common features as follows:

*Firstly*, crowdfunding transactions are heterogeneous financial transactions. Different types of crowdfunding will have different market designs and trading terms.

*Secondly*, crowdfunding is a specific type of financial transaction involving 3 parties: the funding party, the fundraising party, and the third-party intermediary. The funding party is usually individual retail investors, the fundraising party is businesses, projects, innovative startup ideas, and the third-party intermediary is the crowdfunding platform.

*Finally*, crowdfunding is an alternative form of fundraising for traditional capital raising in the startup market such as venture capital funds or bank loans. The outstanding feature of crowdfunding is that it is not only a type of financial transaction in the national financial system, which subjects to strict regulation and management by market supervision committees, but it also has the characteristics of a self-organized, decentralized market.

So, crowdfunding is a form of calling for community support to help a project owner or an idea-generator complete their projects or products when they have an idea but don't have money to execute your project. In which, there are three important factors that make up Crowdfunding: (1) small amount of capital; (2) come from more than one person or entity; (3) based on digital technology platform.

#### **4. THE SITUATION OF RAISING CAPITAL FOR INNOVATIVE START-UPS IN VIETNAM**

##### **4.1. Current status of innovative start-ups in Vietnam**

According to data from the Ministry of Planning and Investment, as of December 2020, Vietnam has more than 810 thousand enterprises, the number of enterprises has tended to grow well in recent years. The average registered capital is about 200-300 thousand US dollars. Meanwhile, there is no official data, but according to Geektime - Topica Founder Institute's statistics until the end of 2019, it is estimated that Vietnam has about 1,800 startups. At the end of 2020, according to statistics of Echelon Magazine - a website specializing in startups in Asia - it is estimated that the number of startups in Vietnam has increased to over 3,000 businesses.

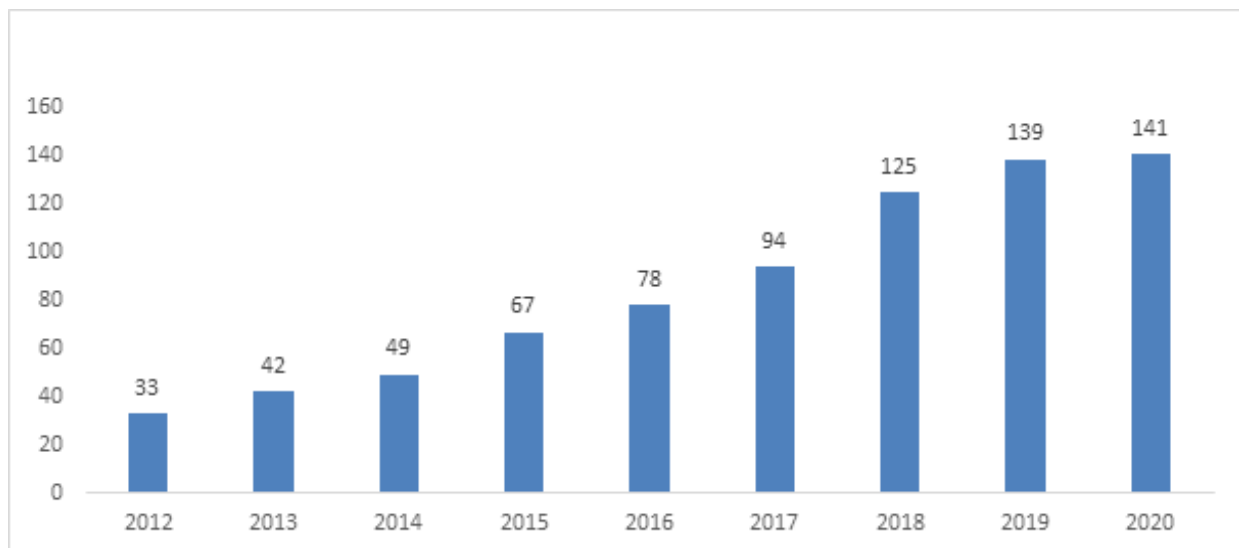
The main field of activity of Vietnamese startups has been a shift from the outsourcing, gaming and telecommunications sectors of the first generation of startups in the early 2000s to the successful application services industries, science and technology. According to the statistics of Topica Founder Institute, in the years from 2018 to 2020, the most attractive startup fields in the Vietnamese market include: (1) E-commerce, (2) Financial technology, (3) Electronic travel services, and (4) Electronic education. In 2020, e-commerce and financial technology continue to be the top attractive startup sectors. These two sectors received investments totaling US\$117 million in financial technology, respectively, up 105% year-on-year; and US\$104 million for e-commerce, an increase of 25% compared to 2017.

The report of the Vietnam Chamber of Commerce and Industry (VCCI) and the United States Agency for International Development (USAID) in 2018 assessed that the majority of Vietnamese startups are at the stage of shaping their business models (accounting for 36% of surveyed enterprises) and the beginning of revenue (accounting for 50% of surveyed enterprises). International experience shows that at these stages, the need to access capital is essential for startups to maintain operations and accumulate resources for development in the next stage. However, with the characteristics of small businesses, no historical financial data, no stable cash flow, lack of development resources, access to venture capital sources is extremely difficult.

#### 4.2. Crowdfunding service providers (Market supply)

Vietnam's fintech ecosystem has experienced impressive growth, with the number of fintech companies increasing rapidly. Depending on different sources of data calculation, the number of companies has certain differences. However, all studies agree on the rapidly increasing trend in the total number of fintechs in the fields.

**Figure 3: Number of Fintechs in Vietnam in the period 2012-2020**



*Source: Statista (2021)*

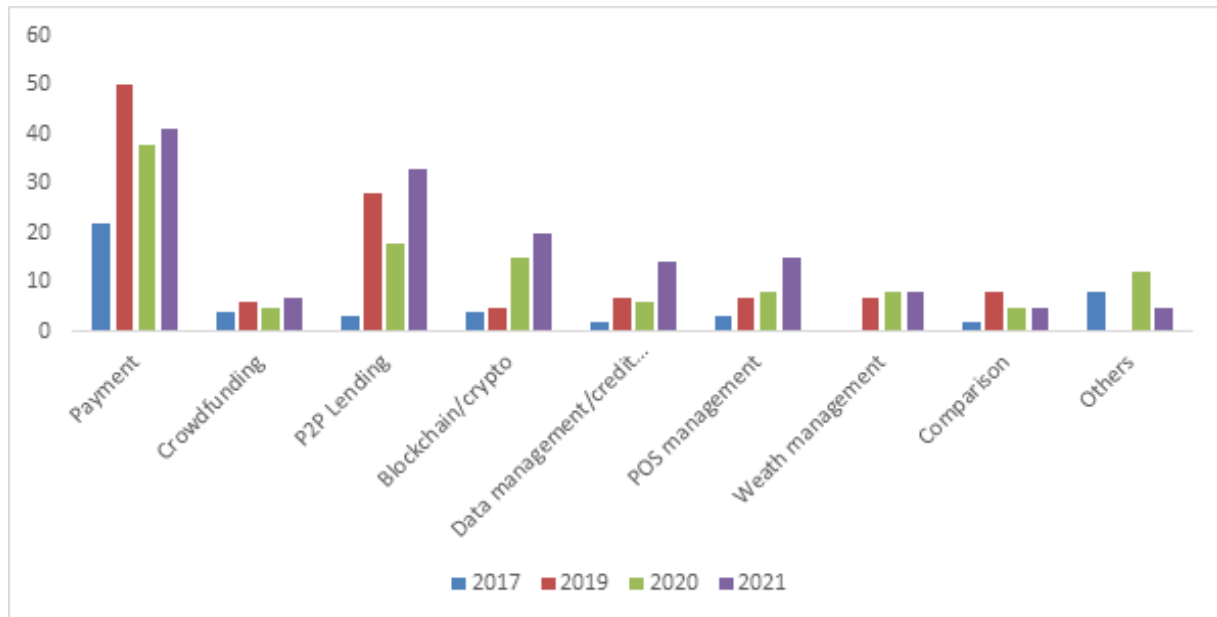
In this ecosystem, the payment sector still dominates. Vietnam has witnessed the continuous growth of FinTech in the payment sector, with payment applications, payment gateways, and e-wallets. This is also the only field that currently has the clearest legal framework.

Online lending grew strongly. Peer-to-peer lending experienced strong growth. In 2017, Vietnam had only 03 online lending companies. This number increases to 100 companies by 2021, including companies that are already in operation and some companies that are in the beta stage. In which, a number of peer-to-peer lending companies originating from China, Russia, Singapore, Indonesia... dominate. However, the number of peer-to-peer loan companies with legal business registration is not really much. Growth in other FinTech categories. Many FinTech companies appear in other areas, including data analytics, credit scoring and/or data management, financial comparison sites, POS, and blockchain. FinTech companies in Vietnam increasingly offer a variety

of products or services, in which many FinTech companies operate in a variety of different FinTech categories.

New FinTech fields appear, but gaps still exist. Different areas of FinTech were not popular in 2017, but so far, new areas have appeared such as finance, insurance technology – insurtech, asset management. However, no FinTech company has yet focused on applying technology to support legal or regulatory compliance.

**Figure 4: Number of fintechs by sector**



Source: ADB (2017), FSIP (2020), Statista (2021), Idautuofficial (2021)

In the fintech ecosystem, the crowdfunding field is considered underdeveloped, with a very small number of platforms, relatively low transaction size, and no tendency to increase in the near future.

As of August 2021, only 3 local crowdfunding platforms are active in Vietnam. Other platforms have suspended operations or shifted to other market segments. In addition, Vietnamese startups and innovation projects can also mobilize capital through 7 international crowdfunding platforms. However, there is no specific information on the number of companies and successful fundraising values on these international platforms.

The main reasons for the underdevelopment of crowdfunding platforms in Vietnam include:

- Many startups are afraid of failure and that information is published on websites, they don't want observers and investors to find out that they have failed to raise the money they need from the fundraising platform community.

- Ownership of startups or projects is quite high, very few people want to have many diverse owners from many different sources.

- Micro enterprises, small and medium enterprises do not know the method of crowdfunding for their activities or new ideas, new projects.

- Most projects seeking funding through crowdfunding are one or two years behind schedule, which can make many investors impatient and frustrated. For example, in developing a product, coming up with a business idea can be relatively quick, but when it comes to producing a viable product or service, it takes a lot of time. This is very common in crowdfunding projects not only in Vietnam but also around the world.

#### **4.3. Demand for crowdfunding from small and medium enterprises, start-ups (market demand)**

Despite the supply-side issues, the demand for crowdfunding from SMEs and startups is huge, and so is the potential for crowdfunding platforms. Here are the basic reasons:

*Firstly*, Vietnam has a large number of small and medium-sized enterprises, business households, and startups. By the end of 2020, there are 810 thousand actual enterprises in existence, with an increase in the number of enterprises in the period. 2016 - 2019 reached 10.5%/year, twice as high as in the period 2011 - 2015, of which the number of small and medium enterprises accounted for 96.7%. In addition, 5.4 million household businesses are also considered as a form of microenterprise, although they do not want to register as an enterprise due to concerns about having to spend a lot of money to comply with relevant laws such as: regulations on accounting, tax, insurance and especially inspection and examination activities of competent authorities.

*Secondly*, the capital needs of small and medium-sized enterprises are high but still unmet. Vietnam has made significant progress in terms of credit access to become one of the 25 countries with a globally leading promotion. However, the level of formal credit access of small and medium enterprises is still limited. Small and medium enterprises and micro enterprises are always in a state of capital shortage, especially in the current uncertain context such as the Covid-19 epidemic and the global economic downturn. Vietnamese SMEs, as well as SMEs in developing countries, often lack governance experience, transparent and audited financial statements, and often do not have collateral assets. It is difficult for SMEs to get loans from official sources, especially banks, because they do not have the required collateral. Official credit institutions in Vietnam still discriminate in favor of large enterprises in terms of providing credit services.

### **5. FACTORS AFFECTING CROWDFUNDING ACTIVITIES IN VIETNAM**

#### **5.1. Subjective factors**

##### ***Qualification, technology infrastructure of the subject of crowdfunding***

Like fundraising activities for innovative start-ups in general, crowdfunding itself is also influenced by the ability and intrinsic level of the business/entity calling for capital. It is clear that accessing funding channels in the market, as well as calling for investors to contribute capital through crowdfunding platforms will depend greatly on the reputation, mobility and marketing of the business, entrepreneurship, as well as the attractiveness and feasibility of the business idea. In addition, when businesses participate in fundraising based on crowdfunding platforms, the business's infrastructure and technology level is an important factor, determining the accessibility and connectivity of owners with investors and lenders through the fundraising platform. The enterprise's ability to master technology promotes marketing, promotion and introduction of its

products/business ideas on the crowdfunding platform, thereby increasing its ability to convince investors. investment and loan objects.

### ***Human resource qualifications***

In addition to professional knowledge, the ability to grasp, access technology and proficiently use information technology applications of the staff of the crowdfunding entity and the platform operating business is a key factor determining the success of the crowdfunding platform's operation.

### ***Technology solutions, infrastructure of the crowdfunding platform***

A decisive factor in the development of crowdfunding is the technological solution that the crowdfunding platform provides to the caller and investors/contributors/lenders. The convenient, easy-to-access and easy-to-use application will attract capital callers to join the platform, and at the same time make it easier for investors and lenders to access information, learn about business ideas, to analyze and evaluate to make investment decisions.

### ***Service quality of crowdfunding platform***

Besides technology solutions, the quality of services provided by the crowdfunding platform to customers (including: callers, investors and capital contributors, ...) is also an important factor which has a significant impact on attracting objects to participate in the operation of the crowdfunding platform. In fact, there are many crowdfunding platforms in the country and around the world that implement solutions to attract customers by free of charge to join and support customers with solutions and services for promotion and communication, ...

## **5.2. Objective factors**

### ***The technology environment***

For the development of a crowdfunding platform, the technology environment plays a very important role in determining the development direction and success of this model.

*Firstly*, Vietnam has a high internet access rate, with more than 68.7 million internet users, accounting for more than 70% of the population size. Mobile coverage and usage is high, with 154.4 million mobile subscribers, accounting for 157.9% of the population, of which 96.9% are smartphone users. The rate of using social networks in Vietnam is also very large (72 million people, accounting for 73.7%), focusing on social networks such as Facebook, Twitter, Instagram. This is a favorable condition for the young population to easily access new ideas, business models and capital mobilization models.

*Secondly*, individuals and businesses are used to using technology platforms for business activities and daily living. In 2020, there were 2.78 billion new apps downloaded on the phone. Total online spending through mobile apps in Vietnam is 290 million USD. Up to 78.7% of 16-64 year olds people have done online shopping in 2020.

*Thirdly*, human resources have good potential. Vietnam has a population that is still in its golden age with an average age of 32.7. In addition, 95% of adults are fluent in reading and writing. The human potential of information technology in Vietnam is huge, with the advantage of high quality human resources and low labor costs.



*Lastly*, Vietnam's network security has improved markedly. In 2020, Vietnam ranked 25th out of 194 ranked countries and territories, 7th in the Asia-Pacific region and 4th in ASEAN. Compared to the last assessment period published in 2019, globally, Vietnam increased by 25 places, surpassing Thailand to rank 4th out of 11 ASEAN countries, just behind Singapore, Malaysia and Indonesia.

### **The economic environment**

The economic environment is generally quite favorable for the development of crowdfunding, although there are certain factors that hinder it. Specifically:

*Firstly*, Vietnam is one of the strong developing countries, with strong GDP growth. For four consecutive years, from 2016-2019, Vietnam ranks in the top 10 fastest growing countries in the world with an average GDP growth rate of 5.9%, and is one of the 16 most successful emerging economies. In 2020, the growth rate is 2.91%, making Vietnam one of the few countries with positive growth in the world.

*Secondly*, Vietnam's business environment ranking has also gradually improved. However, according to the World Bank (2020), the ranking of Vietnam's business environment in 2020 is 70/190, down 1 place compared to 2019.

*Thirdly*, although the electronic payment system has grown strongly, partly due to the COVID-19 pandemic and the explosion of intermediary payment platforms, the proportion of people choosing to pay by COD method - payment on receipt - very high, up to 88% (OCS, 2021).

### **Legal framework**

Over the years, the National Assembly of Vietnam has issued legal documents, including regulations on support and preferential policies for enterprises in general and small and medium-sized enterprises in particular, such as: Law on corporate income tax, Investment Law, Land Law, Environmental protection Law, Laws on high technology, technology transfer, science and technology and intellectual property, regulations and standards,....

Although the above Laws have provisions on incentives and incentives for enterprises and small and medium-sized enterprises, the review shows that many regulations only stop at the level of support and incentives of a specialized nature industry for all subjects, without a separate policy for small and medium enterprises.

## **6. SOLUTIONS AND RECOMMENDATIONS**

To develop a crowdfunding platform for innovative start-ups, it is necessary to follow a few principles:

- *Ensuring consistency with applicable laws, regulations, rules and definitions*: Crowdfunding is a financial service, therefore, it should be considered as a component, albeit a small one, of the Vietnamese capital market. Accordingly, crowdfunding regulations should be fully consistent with all applicable laws, regulations and rules applicable to other financial service providers.

- *Protecting investors and issuers*: Consumer protection is a key principle of regulation, including financial regulation. The crowdfunding sector is subject to the highest standards,

and regulations regarding the protection of issuers and investors - the “consumers” served by crowdfunding platforms - must also be strict.

- *Focusing on issuers that are small and growing businesses:* The goal of crowdfunding is to assist MSMEs with limited access to equity capital, so it is important to ensure that only small businesses looking for a relatively small amount of equity can get permission to participate in crowdfunding platforms or portals. The focus should be on giving small growing businesses (SGBs) the opportunity to access equity through crowdfunding to become professionally managed businesses with business plans, solid and good growth prospects.

- *Promoting competition:* In theory, it would be better for all to have a large, diverse set of well-regulated crowdfunding platforms that compete with each other to serve issuers and investors; therefore competition must be the core principle behind the regulations.

- *Maintaining regulatory flexibility:* The last principle to apply is flexibility. Regulations must be regularly reviewed, adjusted and refined, especially during the early years of crowdfunding.

## 7. CONCLUSION

Crowdfunding platform appeared in Vietnam since 2013 and has gradually developed and become popular in recent years. However, with the lack of a regulatory legal framework for crowdfunding activities, social awareness is still low, people still lack confidence in start-up or business projects; Entrepreneurs themselves are still hesitant to publicize their projects, and ideas to call for help from social capital are existing barriers hindering the development of crowdfunding platforms.

In addition, the form of crowdfunding also has many potential risks including default risk, fraud risk, transparency risk, inexperience risk, liquidity risk, and risk. network security risks. Therefore, the research to build a synchronous and complete legal framework on the crowdfunding platform to support innovative start-ups to raise capital and protect investors participating in the crowdfunding platform is extremely necessary.

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# FINANCIAL POLICY TO SUPPORT SMALL AND MEDIUM ENTERPRISES IN TERMS OF GLOBALIZATION

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**Abstract:** *Globalization has created the conditions for the development of fields and especially the economy. Today's economic globalization has become a general trend of the era that cannot be ignored by nations and peoples. Small and medium enterprises play a very important role in the Vietnamese economy. The recent COVID-19 epidemic has pushed the small and medium enterprises community into great difficulties, many units facing the risk of bankruptcy. Over the past time, the State has always accompanied businesses, promptly issued financial policies to support small and medium enterprises in order to promote and develop production and business, and recover the economy due to the impact of the COVID-19 pandemic, however the results of the implementation of policies are still limited, small and medium enterprises still face many difficulties in the process of globalization integration. The article analyzes the innovation of the Government's financial mechanisms and policies to support the development of small and medium enterprises in terms of globalization, the assessment clarifies the achievements and limitations of the small and medium enterprises sector today. On that basis, some recommendations are made to improve financial policies to support the development of small and medium enterprises in Vietnam in terms of globalization.*

**Keywords:** *financial policy; small and medium enterprises; globalization; policy of tax;*

## 1. INTRODUCTION

Globalization is the process of economic development, following the trend of modern development, accompanied by advanced trends, the process of globalization is seen as a process of increasing relationships, interdependence and interaction between regions, countries and peoples of the world. Globalization has created conditions for the development of different fields and especially the economy. Economic globalization is an objective and legal development trend in the development of the world economy. Economic globalization is having a profound impact on the economies of all nations. International economic integration brings great development opportunities for Vietnamese businesses, but also puts businesses in the face of great challenges and difficulties.

Small and medium enterprises play a very important role in the Vietnamese economy. Currently, the whole country has about 879,546 small and medium enterprises out of 906,748 enterprises operating in the economy, accounting for about 97%, with a total registered capital of about 130 billion USD, accounting for about one third of the total registered capital of enterprises

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[2]. Every year, small and medium enterprises contribute about 40% of GDP, pay 30% to the state budget, contribute 33% of industrial output value, 30% of export value and attract nearly 60% of employees. Although the number of small and medium enterprises is large, the size of small and micro enterprises accounts for a very large proportion, the number of medium enterprises only accounts for 1.6% of the total number of small and medium enterprises. Because of its small size, the operation of this business sector is facing many difficulties, such as the ability to access capital sources to invest in modern machinery and technology for production, business; lack of experience in business administration; ability to compete, dominate the market right in the domestic market... especially the impact of the COVID-19 pandemic from the beginning of 2020. Currently, the most difficult problem is aggregate demand falling and output not recovering, followed by a shortage of capital, especially medium and long-term capital. The situation of international trade disruption due to the implementation of blockade and social distancing measures to limit the spread of the disease has had consequences on production, business, and import and export activities. The shortage of raw materials and input materials as well as the decline in the output market has caused many enterprises to suspend operations or operate in moderation, reduce their scale, or even risk bankruptcy.

In the past, the Government has issued policies to support the development of small and medium enterprises, but the results of the implementation of the policies are still limited, and small and medium enterprises still face many difficulties in terms of globalization. Some reasons for the Government's support policies have not been effective as expected: the system of policies to support small and medium enterprises is still scattered, not large enough, lack of focus, lack of consistency; enterprises have to bear a lot of pressure of complicated and expensive administrative procedures; small and medium enterprises have not received equal access to resources (capital, land). This situation requires the Government to have specific policies to support small and medium enterprises, especially financial policies to help small and medium enterprises overcome difficulties of the COVID-19 pandemic, take advantage of opportunities and overcome challenges to develop. The article analyzes the innovation of the Government's financial mechanisms and policies to support the development of small and medium enterprises in terms of globalization; The assessment clarifies the achievements and limitations of the small and medium enterprise sector today. On that basis, some recommendations are made to improve financial policies to support the development of small and medium enterprises in Vietnam in terms of globalization.

## **2. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES**

Many scholars and researchers from many countries around the world have affirmed the role of small and medium enterprises in the economy, the role of the Government in encouraging the development of these enterprises through financial policies. Economists often tend to divide enterprises by size based on some specific measure such as number of employees, revenue or total assets. The most common criterion used to distinguish between large and small enterprises is the number of employees [3]. In Vietnam, the criteria for identifying small and medium enterprises are specified in Article 4 of the Law on Supporting Small and Medium Enterprises No. [04/2017/QH14](#) as follows: "Small and medium enterprises include micro enterprises, small and medium enterprises, with an average number of employees participating in social insurance not exceeding

200 people per year and meeting one of the following two criteria: (i) Total capital must not exceed 100 billion VND; (ii) Total revenue of the preceding year is not more than 300 billion VND”.

Pham Van Hong [6], Tran Thi Van Hoa [8] all point out the characteristics of small and medium enterprises with inherent limitations, so to overcome difficulties and disadvantages in terms of globalization, small and medium enterprises need support from the Government. The limitations of small and medium enterprises need to be supported:

- Firstly, the limitation on capital scale as well as the ability to access official capital is the cause of preventing the ability of small and medium enterprises to expand production, innovate technology and develop the market. Small size of equity, limited management skills are one of the reasons that make it difficult for small and medium enterprises to access the formal capital market. Finance is always the main issue of small and medium enterprises in the process of business development. However, it is difficult for small and medium enterprises to access loans from banks due to the high risk. Even in countries with easy credit conditions, it is difficult for a small entrepreneur to obtain financial help. They cannot meet the conditions of the lending institutions. Therefore, small and medium enterprises often have to access informal capital sources with high interest rates. High capital cost is a big barrier to business development. Therefore, it is necessary to provide financial support for small and medium enterprises.

- Second, the facilities, technology and technical level are often weak and outdated. Workshops, direct working places and transaction offices and management offices of most small enterprises are very narrow. Starting from a small and medium scale, many small and medium enterprises often use their own assets to open offices, companies or only spend a small part of their resources to rent business premises. In fact, it is very difficult for small and medium enterprises to access premises with the support of the state, because large enterprises often have an advantage when accessing premises because they are often given certain favors, especially as a group of foreign-invested enterprises, small and medium enterprises are always disadvantaged when accessing land.

- Third, limited access to information. Small and medium enterprises face many difficulties in expanding consumption markets, finding cheap and quality fuel sources, and supporting policies of the Government. Limited access to information also makes small and medium enterprises less accessible to supportive policies of the Government. Therefore, although they are beneficiaries of support policies, small and medium enterprises do not know this, making them not receive or know how to receive benefits from government assistance programs.

- Fourth, the management level and labor quality are limited. Small and medium enterprises often do not have a clear business development strategy, as well as the ability to foster and improve labor quality. Therefore, it is necessary to support the development of human resources for small and medium enterprises, and at the same time help enterprises to develop development strategies.

Discussing the relationship between financial policy and the growth of small and medium enterprises, has been mentioned quite a lot in articles and researches, both at home and abroad. Many empirical studies such as Dong Xiang and Andrew C. Worthington (2013) [16], Roghayyeh Afshari, Farzad Sattari Ardabili, and Samad Ali (2012) [1], Jia Chen (2006) [4], Zhaozhen Fan (2008) [5], Shuji Uchikawa (2009) [15], Pussadee Polsaram, Panid Kulsiri, Lisara Techasermasukkul, Thaw

Dar Htwe, Kanittha Kwanchainond (2011) [13]... in countries like Australia, Iran, China, Japan, Brunei, Cambodia, Laos, Myanmar... affirms the correlation relationship between the performance of small and medium enterprises and the Government's financial policies. This means that the support from the Government's financial policies creates an incentive to encourage small and medium enterprises to develop. Dong Xiang and Andrew C. Worthington (2013) [16] examined the effectiveness of Government financial support for Australian small and medium enterprises during the global financial crisis. The authors assessed the effectiveness of financial support through changes in revenue, profitability of small and medium enterprises and improved access to possible non-governmental financial sources. The results show that the Government's financial support has improved the performance of small and medium enterprises in Australia. Roghayeh Afshari, Farzad Sattari Ardabili and Samad Ali (2012) [1] used a factor analysis method based on data obtained from a survey of 64 small and medium enterprises in Iran to determine the impact of Government tax and fiscal policy on the growth of small and medium enterprises in Iran. The results of the study provide evidence on the ways in which the government's fiscal and tax policies affect the growth of small and medium enterprises. Research shows that tax incentives for research and development, reasonable tax deductions and deductions are key determinants of small and medium enterprises growth. The second finding of the study shows a direct relationship between the percentage of credit provided to small and medium enterprises and their growth. However, the key issue is not low credit rates, but interest rates that have a significant impact on small and medium enterprises growth. In the report "Small and medium enterprise development policies in 6 ASEAN countries" of the organization "Organization for small and medium enterprises and regional innovation, Japan" in 2008 researched policies on developing small and medium enterprises in 6 ASEAN countries, including: Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam [12]. In each country, the study focused on how small and medium enterprises are defined, the current state of small and medium enterprises, the business environment, and the legislation related to small and medium enterprises. The study also analyzes the development policies of small and medium enterprises of six ASEAN countries related to the tax system, human resource development, and access to financial resources. The authors Pham Van Hong [6], Nguyen Minh Tuan [14], Le Thi My Linh [9], Tran Thi Van Hoa [8] all have the same opinion when they think that the Government should have financial and non-financial to support the development of small and medium enterprises. Financial policy includes: tax policy including provisions for tax incentives, reduction of declaration frequency, simplification of the management system to reduce compliance costs, credit policy including credit incentives, insurance credit guarantee, hire purchase, venture capital investment, export financing; land finance policies include land rent and non-agricultural land use tax.

### **3. METHODOLOGY AND PROPOSED MODEL**

This study uses a qualitative method to examine the impact of financial policy on the development of small and medium enterprises in Vietnam in terms of globalization. The main methods of qualitative analysis used in this study are process-tracing, descriptive inference and situational analysis. When researching by process-tracing method, the author will search, select, and analyze some evidence about the research object. These evidences are causal-

process observations, or in other words, observable manifestations of the research subject and a number of related factors. Specifically, it describes the criteria for identifying small and medium enterprises, the limitations of small and medium enterprises that need to be supported, and the financial policies that mainly support small and medium enterprises. These observations may contain underlying cause-and-effect relationships. From one observation to another and so on, through these observations, the author will conduct an analysis to contribute to clarifying the proposed hypothesis about the impact of financial policy on the development of small and medium enterprises in terms of globalization. The process of implementing this method will be carried out simultaneously with the method of reasoning, description and analysis of the situation. To ensure the quality of the qualitative analysis, in the inference and description process, the statistics as well as some specific situations related to the relationship between financial policy and the development of small and medium enterprises were selected based on the criteria to ensure unbiased, efficient and consistent with highly representative and similar samples. Contrasting figures and situations are selected to clarify developments and salient features in the relationship between financial policy and small and medium enterprises development. The analysis of the situation is mainly in terms of two comparative aspects of time and space. In addition, the main situation to analyze the impact of financial policies on the development of small and medium enterprises is tax policy, credit policy, and land finance policy. Based on an overview of theoretical and practical foundations, the motivation to encourage small and medium enterprises to develop in terms of globalization is evident through the support from the Government's financial policies.

#### **4. RESEARCH RESULTS**

Vietnam is entering a key stage of development. We are having an unprecedented mix of interests with partners. Vietnam has a very deep integration policy and not only at the integration level but also at the level of linking with a new position, catching up with the new trend. Opportunities to receive foreign capital flows when investment tends to shift to higher profitable and safer markets in the context of a slowing global economy. Vietnam is an attractive investment destination, an increasingly improved investment environment, along with the participation of many major free trade agreements and the trend of shifting investment from China. There are also some new growth engines in the global economy. The 4.0 technology revolution will generate about \$ 3.7 trillion by 2025 thanks to Internet of Things, robotics and 3D printing technologies that improve productivity. However, the trade tensions and tariffs escalated along with the global trade conflict, along with growing trade protectionism, and declining international trade and manufacturing activities. Increasing trade tensions could have a negative impact on world economic growth and disrupt global linked value chains. Notably, due to the persistent consequences of the Covid-19 pandemic on the global economy, global GDP growth could face a bleak outlook in the coming years, with lower private investment and productivity increase.

According to the General Statistics Office, in 2021, the total number of enterprises withdrawing from the market is 119,800, of which the majority are enterprises established under 5 years, with small capital scale, an increase of more than 24% over the same period in 2020 due to the impact of the epidemic and prolonged social distancing [7]. In the last 4 months of 2021, the economy's aggregate demand declines, production and trade stagnate, supply chains are broken, workers lose

jobs, many orders are lost... For export-related industries Exporting and using a lot of labor, only 15-20% of factories produce in moderation because they can follow “3 places”, the remaining 80-85% of factories have to stop production. These figures show that the difficulty level of small and medium enterprises is very large [11].

Facing this difficulty, the Government has many solutions to support small and medium enterprises. In 2020, there are two main groups of policies from tax and revenue tools, including: a cluster of policies on extending payment of taxes and land rents and a cluster of policies on reducing and exempting land rents and fees along with other state budget contributions. In 2020, the budget has supported small and medium enterprises with 129 trillion VND, of which 97.5 trillion is implemented according to the policy of extending contributions to the budget and 31.5 trillion is directly exempted and reduced for taxpayers [11]. In 2021, in the face of unpredictable fluctuations of the epidemic, especially the 3rd and 4th disease outbreaks, the Ministry of Finance has proposed to maintain exemptions and reductions for about 30 types of fees and charges that have an impact on business activities, as well as people’s lives; maintaining the regime of reducing import tax rates for essential products serving the agricultural and supporting industries... In particular, the Government has issued Decree 52/2021/ND-CP with supporting policies extending the payment of corporate income tax, personal income tax, value-added tax and land rent. The Decree will be implemented from April 2021. The Ministry of Finance estimates that this support package will reduce or reduce about 115 trillion VND. By the end of September 2021, the amount of support and extension for small and medium enterprises is 78 trillion VND. Of which the most supported is the value-added tax, which accounts for about 60% of the total amount supported [11]. Following that, the Government issued Decree 92/2021/ND-CP on a number of solutions to support enterprises and people affected by the COVID-19 epidemic. With this new support package, the total amount of exemption or reduction is estimated at 21.3 trillion VND. This support package focuses on four groups of policies as follows: 30% reduction of value-added tax to support essential products and goods for people’s daily life; exempting all taxes for enterprises in the third and fourth quarters of 2021; 30% reduction in land rent; 30% reduction of corporate income tax payable in 2021 for all corporate organizations.

In the context of the COVID-19 epidemic occurring from 2020 to now, right from March 2020, the State Bank promptly issued Circular 01/2020/TT-NHNN and in 2021 adjusted and supplemented and issued Circular 03/2021/TT-NHNN, Circular 14/2021/TT-NHNN on rescheduling of debt repayment, exemption and reduction of interest and fees, and retention of debt groups for customers affected by the COVID-19 pandemic. Thanks to the early intervention of the State Bank and the timely issuance of policies, credit institutions have a basis to support enterprises. Statistics show that, since the outbreak of COVID-19 until now, the bank has exempted and reduced interest of more than 26,000 billion VND, and exempted and reduced fees of nearly 2,000 billion VND for small and medium enterprises [15]. From July 2021 to now, the Bankers Association has called on credit institutions, especially 16 pioneering credit institutions, to reduce interest rates for small and medium enterprises facing difficulties due to the COVID-19 epidemic. Organizations committed to implement from July to the end of 2021 is 20,300 billion VND. By the end of August 2021, banks have reduced nearly 9,000 billion dong of loan interest, equivalent to 43.01% of the commitment [10]. This is a great effort of credit institutions. Debt



restructuring policies, interest and fee exemptions and reductions have helped many enterprises reduce financial obligations, increase access to capital, and reduce the pressure of risk provisioning for banks. Following that, the National Assembly issued Resolution No. 43/2022/QH15 on fiscal and monetary policies to support the program of socio-economic recovery and development. This is a very important resolution to implement the socio-economic development and recovery program affected by the COVID-19 pandemic. Specifically, the state budget will support interest rates for enterprises facing difficulties due to the impact of the COVID-19 epidemic, the interest rate support level is 2% for 2 years from 2022 to 2023, up to a maximum of VND 40,000 billion.

Support policies have been urgently issued by the Government, ministries and sectors to promptly energize enterprises and are highly appreciated and welcomed by the business community. However, the reality shows that accessing support policies is still difficult and entangled in the implementation stage. The problem is how to make those mechanisms reach the right beneficiaries quickly and in a timely manner, promote efficiency, and avoid the situation where the policy is correct but the implementation organization has not been successful in time. On the other hand, from a realistic perspective, the rate of benefit from supporting policies of enterprises is still very limited, many short-term policies are issued, not commensurate with the status and resilience of enterprises. Many forecasts say that it will not be until the end of 2022 that enterprises will partially recover. Therefore, in addition to extending support policies such as extending tax and land rent..., stronger support policies are needed.

## **5. DISCUSSION AND CONCLUSION**

Some recommendations to improve financial policy in Vietnam to promote small and medium enterprises development in terms of globalization in the near future are as follows:

- Financial policies to support small and medium enterprises need to continue to be implemented in a more focused, targeted and substantive manner, closely following the needs of enterprises. It is necessary to select and classify occupations to support, on the basis of a quick assessment and survey of the impact of the COVID-19 epidemic on specific industries and occupations, and with conditions and criteria. Regarding the selection of industries and fields to prioritize for support, through assessing the impact of the COVID-19 epidemic, the industries that are negatively impacted in descending order are: tourism; carriage; stay; Eating; sports, entertainment and entertainment... Regarding the conditions and criteria for small and medium enterprises to receive support, the Government can base it on a number of key criteria such as: (i) pervasiveness (positive impact) to other industries and fields), (ii) labor (creating many jobs), (iii) being able to recover from the pandemic. It is necessary to support small and medium enterprises in the process of production and business activities such as: providing information on markets, categories, regulations, barriers of export markets, introducing customers and suppliers, provide and strengthen the organization of direct dialogues between enterprises and local authorities, promptly remove obstacles and difficulties for enterprises in the process of production and business activities; organize introduction and specific instructions on business management operations... Strengthen technical support to remove difficulties in terms of qualifications as well as technical technology and management capacity for small and medium enterprises. It is necessary to have a financial policy to train the human resources of small and medium enterprises. Vietnamese

enterprises have low competitiveness compared to the region and the world due to low financial autonomy and inefficient management. Therefore, the training of human resources of small and medium enterprises, especially human resources for business administration, must be given top priority. To do so, financial resources for human resource training are considered the lifeblood of this work.

- For tax policy, it is necessary to allow the extension of time, tax deferral, land rent and additional objects of extension so that enterprises can reduce difficulties in payment of expenses. We should also consider supporting the reduction of VAT for enterprises because this is a tax with a large regulatory area. This tax does not need to be earned to pay like corporate income tax. This tax is incurred as soon as goods and services are provided. Reducing VAT should focus on services such as hotel accommodation, tourism, transportation, equipment transportation for epidemic prevention.... For enterprises directly involved in the production of protective gear (gloves, protective clothing), COVID-19 prevention equipment should allow enterprises to deduct the entire cost of fixed assets (incurred when expanding production scale) into reasonable expenses to reduce CIT. Foreign companies that expand their investment activities in the country will receive tax support including a 30% tax reduction for three years. Exemption from import tax on goods imported to serve the fight against the epidemic or as input materials for the production of goods to help prevent and control COVID-19. It is necessary to review the corporate income tax reduction policy because the majority (accounting for 98% of the number of enterprises) that are facing difficulties or facing bankruptcy is due the cost burden of supporting business income tax reduction is not suitable for them. Only 2% of enterprises that have not been temporarily affected by COVID-19 benefit from this policy. The reduction of corporate income tax is an improper support method, wasting resources, creating inequality in the business community and making the business environment worse. The tax extension and reduction should only be applied to value added tax, the beneficiaries will be more.

- Regarding credit policy, continue to prioritize credit granting to small and medium enterprises. In order to make it easier for small and medium enterprises to access credit, the State Bank needs to: (i) Implementing proactive and flexible monetary policy management, contributing to controlling inflation and stabilizing the macroeconomy to create a favorable business environment for small and medium enterprises; (ii) Directing commercial banks to continue to review and improve lending and borrowing procedures, improve the appraisal ability to shorten the loan processing time, create favorable conditions for small and medium enterprises have access to loans while still ensuring capital safety; (iii) Clearly and specifically stipulate what is the market interest rate (specify Clause 1, Article 13, Circular No. 39/2016/TT-NHNN) so that commercial banks can correctly apply it. rather, avoid the application of non-market interest rates in lending to small and medium enterprises; (iv) Encourage commercial banks to develop a variety of credit products, banking products and services, and products for hedging against interest rate and exchange rate risks for small and medium enterprises; (v) Direct commercial banks to develop a process for collecting and exploiting information on credit rating of small and medium enterprises to improve the appraisal efficiency and credit rating of borrowers, thereby enhancing the ability to lend without collateral to solve difficulties for small and medium enterprises.

- For land finance policy, continue to ease land financial obligations for small and medium enterprises, develop industrial zones and clusters for small and medium enterprises. In case the land is leased directly from the State, it is recommended to issue regulations allowing the land rent to be stabilized on a 5-year cycle. Thus, the production and business activities of enterprises will be more stable, enterprises will feel secure and have more initiative in estimating production and business costs. After 5 years, if there is a change in the policy, the land rental price should not fluctuate too much, the adjustment level should not exceed 30% of the land rental unit price of the previous stable period (similar to the case of auction of leased land use rights) and it is necessary to notify early so that the enterprise can take care of the financial source to fulfill its obligations to the State. In the coming time, together with the general policies of the Government, local authorities, depending on their capacity, can issue specific support policies to develop industrial zones and clusters for small and medium enterprises. The first is a policy to directly support investors of industrial zones and clusters with part of the site clearance costs or a part of the costs to encourage enterprises to invest in technical infrastructure of industrial zones and clusters such as: fees for ground leveling, internal roads, water supply and drainage systems, and waste treatment systems, thereby reducing the rental price of land and factories in industrial zones and clusters. The second is the policy of direct support for small and medium enterprises so that they can move into industrial zones and clusters such as the cost of dismantling factories, equipment and transporting and installing at new locations, to support marketing and development costs for enterprises having investment projects in industrial zones and clusters.

In the coming time, with the process of international economic integration and the industrial revolution 4.0, there will be profound impacts on all aspects of the economy and the operation of small and medium enterprises. That requires small and medium enterprises to be fully and deeply aware of the right solutions to take advantage of opportunities, overcome challenges, turn challenges into opportunities for growth, innovate technology, improve competitiveness and stand firm in the process of international economic integration. More than ever, the implementation of financial policies to support the development of small and medium enterprises through the COVID-19 pandemic, improving the competitiveness of this group of enterprises is essential. This study analyzed the innovation of financial mechanisms and policies of the Government to support the development of small and medium enterprises in terms of globalization; The assessment clarifies the achievements and limitations of the small and medium enterprise sector today. On that basis, some recommendations are made to improve financial policies to support the development of small and medium enterprises in Vietnam in terms of globalization. The author expects that the research results will be valuable to scientists as well as managers and macroeconomic policymakers of Vietnam.

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# THE PROBLEM OF TRADE FRAUD IN VIETNAM - IDENTIFICATION AND SOLUTIONS

Assoc. Prof. Dr. Nguyen Tien Thuan<sup>1</sup>

**Abstract:** *Rade fraud is now quite common in commercial activities (including international trade and domestic trade) and has negative impacts on economic development and social life. Commercial fraud in Vietnam is not a new problem, since ancient times, our ancestors have summed up commercial fraud into the sentence: “Smuggling, selling fraud” to refer to the negative sides of trading, for people to be wary of tricks, tricks, and deception of customers by merchants. Currently, we are developing a multi-sector commodity economy that operates under the market mechanism with the regulation of the State, and when accepting the market mechanism, it is necessary to accept competition. Competition is the driving force for development, and the ultimate engine of competition is higher and higher profits. In commercial business, competition will inevitably appear complicated and sophisticated forms and tricks of commercial fraud, which are reflected in acts of tax evasion, evasion of State control, smuggling and fraud. , bribery, stealing production secrets, non-economic negative competition... Thus, the purpose of fraudulent acts in the commercial field can be seen to obtain unwarranted profits. In the following article, the author focuses on analyzing the manifestations of commercial fraud in our country, the consequences of commercial fraud to national economic development and solutions to limit this phenomenon.*

**Keywords:** *commercial fraud, Vietnam, solutions.*

## 1. IDENTIFY COMMERCIAL FRAUD

Commercial fraud is a fairly common phenomenon in the market economy and is presented in many different forms. When researching on commercial fraud, researchers all agree and say that: Commercial fraud is an act of deception, trickery, and deception in the field of commerce through buying and selling activities. trading, importing and exporting goods and services for the purpose of obtaining illicit profits that they should not have enjoyed. The purpose of commercial fraud is to gain illicit profits due to the successful implementation of fraudulent and deceitful acts. Subjects participating in commercial fraud include: buyers, sellers, or both buyers and sellers through the object of goods.

Smuggling is a very common term in commercial activities from time immemorial, meaning the trade in tax evasion and prohibited goods. The 1977 International Convention on Administrative Assistance Between States for the Prevention, Investigation and Suppression of Customs Violations (referred to as the Nairobi Convention for short) defines: “Smuggling is commercial fraud. trade

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in order to conceal the inspection and control of Customs by all tricks and means in bringing goods stealthily across the border”. According to the World Customs Organization document for investigators on trade fraud, the act of smuggling is understood: *it is the act of bringing goods into the territory of a country or taking goods out of the territory of a country. that territory violates the applicable laws or regulations of that country, evades or attempts to evade the payment of Customs duties by failing to declare or evading inspection by the authorities.*

It is necessary to distinguish commercial fraud from other acts of smuggling, smuggling is the act of illegally trading across borders or from a non-tariff zone into the inland or vice versa of goods, Vietnamese currency, foreign currency. currency, precious metals, gems, relics, antiquities and national treasures (hereinafter collectively referred to as illegal cross-border trade in goods).

Smuggling is a specific form of commercial fraud (specified by Decree No. 127/2013/decree – government) and is considered commercial fraud in the customs sector. Commercial fraud in the field of customs is defined as acts of violating the provisions of law on customs procedures, inspection, supervision, customs control, provisions of the law on tax on goods. export, import and other legal regulations related to exported and imported goods, means of transport on exit, entry and in transit.

The difference between commercial fraud and smuggling can be distinguished as follows:

Criteria	Commercial fraud	Smuggle
Concept	Fraud in product quality measurement, goods that do not ensure food safety and hygiene, violations of labeling and other commercial frauds in the market occur frequently in many sophisticated forms. , difficult to detect. The fields of industries and goods of the violators are increasingly diverse and rich.	Is the act of stealthily bringing goods across the border in order to evade or resist the inspection and control of the customs by not going through the border gate or even though passing through the border gate, but using illegal tricks such as infiltrating. smuggled goods among other goods with customs declaration, clearance, etc., to conceal goods, evade, resist customs inspection.
Range	Wider than smuggling	Narrower than commercial fraud
<b>Danger level</b>	Smaller than smugglers.	Bigger than commercial fraud. The World Customs Organization has considered smuggling as one of the particularly dangerous types of commercial fraud.
Treatment measures	Common commercial frauds are administratively liable.	Criminal liability.

Particularly in the field of international trade, commercial frauds specified in Circular 07/2017/ Circulars- Ministry of Finance include:

- Acts of smuggling, commercial fraud in the field of customs
- Commercial frauds in the field of taxes, fees and charges
- Commercial frauds in the field of price management
- Acts of commercial fraud in the field of accounting

- Acts of commercial fraud in the field of insurance business
- Commercial frauds in printing, issuing, managing and using invoices

Thus, Circular 07 stipulates both forms of commercial fraud in import and export activities and forms of commercial fraud in the financial sector (a type of fraud closely related to commercial fraud). commercial).

## **2. NEGATIVE EFFECTS OF TRADE FRAUD ON VIETNAM'S ECONOMY**

Trade fraud is considered as one of the main causes that have a serious negative impact on a country's economy. It weakens industries, local economic development, discourages legal imports, and reduces state budget revenues. However, it is a reality in most developing countries that there is a shadow economy that goes hand in hand with formal economic activities. And indeed, this has greatly affected the State's macro management, hindering and distorting the development strategy of domestic manufacturing industries.

Trade fraud for smuggled, tax evaded goods is often these goods have a competitive advantage, especially the advantage of lower prices for domestically produced goods or official imports. When there are smuggled goods in a large enough quantity in a market, the price stability of the market will be broken. The reason for this situation is because the market capacity of Vietnam is increasing rapidly, the development speed is increasing, the openness of the economy is large, so the trade in goods is increasing, along with that, appeared many organizations, enterprises and individuals doing improper business, taking advantage of loopholes in the law and state management agencies to put smuggled goods into consumption in the domestic market (that is, considering on the illegal import of quality products that are more competitive than domestically produced goods). As for the illegal import of poor quality products, it will have an unpredictable impact on domestic production activities. Currently, on the northern border, many poor quality goods are massively smuggled to Vietnam such as discarded chicken, confectionery, consumer goods, clothes, shoes, etc. When poor quality products are imported, smuggled, the Vietnamese market becomes a market for goods (especially surplus and sluggish goods) of foreign countries. Not only that, when the quantity of inferior goods is mixed, the quality of the goods is equated. That will be a great difficulty for domestic businesses, causing damage to consumers, creating competitive advantages for smugglers, and affecting legitimate businesses.

With smuggled export goods, the situation is no less serious. The goods illegally exported to foreign countries are usually products in which Vietnam has an advantage or because of the domestic price policy, the relative price of domestic goods is smaller than that of foreign countries. These goods are banned from export, so if they are smuggled, they can bring very high profits. Vietnam's comparative advantage lies mainly in its rich natural resources. The illegal export of minerals, raw materials, strategic items and banned national goods can have a great impact on the macro economy. When natural resources are exploited indiscriminately and without planning, the country's resources will quickly be depleted, severely affecting the development of the national economy in the near future. Specific symptoms are:

*Firstly*, Reduce the competitiveness of enterprises and domestically produced goods. Smuggled goods create unfair competition pressure with domestically produced or officially imported products. This forces businesses to reduce prices to match the market, but if the price reduction exceeds the break-even point, then the import enterprises and domestic manufacturers will not be enough to cover production costs, operations. of the business will stagnate and possibly lead to bankruptcy. Therefore, it will be difficult for businesses to accumulate and invest in long-term to invest in development, improve competitiveness, and build a developed domestic production.

*Second*, the domestic industry is not stable. One of the important indicators contributing to the growth of GDP in general and the economy in particular is the development of industry. According to statistics, it can be seen that the industrial development index (IIP) of Vietnam has uneven development over the years, specifically: in 2007, the IIP increased by 17.1%; in 2009, IIP decreased to 7.06% and then increased to 14% in 2010 and then the growth rate of IIP gradually decreased around 10.3% in 2017, then increased again to 11.4% in 2018, reaching 8 0.86% in 2019, in 2020 and 2021 due to the heavy influence of the Covid 19 pandemic, the growth rate will only reach 3.36% in 2020, 4.82% in 2021, but compared to other countries, in 2020. 2921 Vietnam is still considered a rare bright spot in economic development. Scientifically, the IIP index fluctuates according to GDP growth and is influenced by many different factors.

*Third*, can make the trade balance deficit. Vietnam is a developing country with high economic “openness”, but it is a low-level and limited production, so the Government still has to implement the application of tariffs and barriers. non-tariff measures to protect domestic production, but only for a certain period of time according to bilateral or multilateral commitments with the aim of accepting a trade balance deficit at a certain level and for a period of time. estimated time. Gradually, enterprises will grow up and be able to compete with international enterprises and gradually stabilize the trade balance in a positive direction. However, the influx of smuggled goods has disrupted domestic production, and domestic goods are not able to compete with cheap imported goods. Therefore, since the implementation of the Doi Moi policy until now, Vietnam has always had a trade balance deficit and in production, Vietnamese enterprises themselves have not been able to ensure their own balance in the trade balance. That is, if enterprises alone are still in trade deficit (excluding the export value of FDI enterprises, because if calculating the export value of FDI enterprises in Vietnam, the trade balance has been in surplus). years ago).

*Fourth*, causing loss of revenue to the state budget because the nature of smuggling and commercial fraud is the evasion of payable tax amounts. Businesses in general and individuals in particular when carrying out economic activities are always with the aim of seeking maximum profit at the lowest cost. In order to get the lowest cost, individuals and businesses in business will not exclude any option, including performing acts of evading tax obligations to the state. Smuggling and commercial fraud actually contain the main cause of evasion of import and export tax, value added tax and other taxes.

*Fifthly*, Making international trade activities of Vietnam difficult because: international economic integration is an objective trend, helping Vietnam to accelerate the process of industrialization and modernization of the country. steps to catch up the economic level with the economies of the region and the world. This view has been consistently mentioned in many



documents of the IX, X, XI XII, XIII Party. However, economic globalization has both positive and negative sides, both cooperation and struggle. Economic globalization also creates opportunities for economic development, but it also contains many unequal factors, causing difficulties and challenges for countries (especially developing countries) including Vietnam. .

*Sixth*, has negative effects on society, people's health and national security. Smuggling and commercial fraud cause complicated and heavy social consequences. Increase opportunities for traders to do illicit business, reduce opportunities for genuine traders, and at the same time affect the situation of social order and safety. Smuggling and commercial fraud are the causes of social moral degradation, adversely affecting the fine customs, customs and traditions of the nation's culture. Business ethics are challenged, traders get rich based on nefarious acts, customs officers and management agencies are corrupted when abetting acts of smuggling and commercial fraud. Even smuggled goods and commercial fraud are prohibited goods, contrary to Vietnam's fine customs and traditions. Counterfeit goods, imitation goods or other poor quality goods that do not meet the standards prescribed by the State are smuggled into the domestic market, especially goods that do not meet hygiene and safety standards. food, medical standards, quality standards, such as: new medicines, children's toys, helmets, alcohol, soft drinks, etc. These goods directly affect the health of the majority of people. consumption.

The consequences of smuggling and trade fraud represent weakness in state management, thus affecting national sovereignty and security through a number of schemes to implement "soft borders" or "war without smoke - economic war", especially in hot spots such as border areas because, border security protection is not only about protecting territorial sovereignty, but actually protecting protection of potentials - the basic element of economic development.

*Seventh*, reducing the efficiency of socio-economic management. Smuggling and trade fraud are one of the reasons that make domestic goods difficult, stagnant in distribution and consumption, causing domestic production to stagnate. Many businesses produce goods that cannot compete in the market, with debt piled up leading to bankruptcy, leading to the rise of the "employee army". Smuggling and commercial fraud are also the direct or indirect causes of social evils, which are corruption, alienation, alcohol, gambling, theft ... This situation makes the management of the State more difficult and complicated. On the other hand, smuggling and trade fraud directly lead to loss of revenue in import and export taxes and other taxes, which is a large revenue of the state budget. This affects economic and financial plans, causing the State to lose balance in budget revenue and expenditure. Smuggling and commercial fraud also disrupted the stability of the market, creating a fever in goods and prices, making the State unable to manage import and export activities; policy making, socio-economic development strategy formulation is wrong... The consequences of smuggling and trade fraud on macro management have directly and indirectly affected micro-management tissue. In particular, the management of the customs authorities encountered many difficulties due to the market manipulation of smuggled foreign goods.

Fraudulent behavior in international commercial business is actually an undesirable side of international commercial business when international commercial business has been managed by the State and regulated by the State. legislation of the WTO. Commercial fraud activities will distort international commercial business activities and infringe upon the interests of enterprises

operating in the field of international trade business. Specifically, the above problem manifests as follows:

*Firstly*, smuggling and trade fraud will create an unequal business environment for businesses in the same industry. When all import and export enterprises pay import and export tax, the payable tax value will be included in business expenses and the tax value is the same for enterprises dealing in the same goods. Meanwhile, smuggled and tax-evading goods blatantly exist on the market in direct competition with protected goods, causing damage to lawful businesses and creating inequality in business.

*Secondly*, with the illegal import or export of low-quality or fake goods, not only causes great losses to consumers, but also to enterprises producing real goods, it is easy to affect their reputation and cause serious problems. more difficult to expand the market. This can reduce the country's reputation in the international market.

*Thirdly*, smuggling and commercial fraud will create illegal sources of income, which means "dirty money" will appear and then force organizations and individuals to carry out "money laundering" activities. "At home or abroad, it creates opportunities for organized and transnational criminal activities that destabilize and adversely affect world trade.

In short, commercial fraud (such as acts: smuggling, tax evasion, quality fraud, origin fraud, etc.) people are exploited, causing imbalance between production and consumption, deviating the development of the national economy. Commercial fraud can slow down the country's industrialization and modernization process.

### **3. MEASURES TO PREVENT COMMERCIAL FRAUD**

When commercial fraud activities are being exploited by companies and economic groups of countries, they find ways to increase profits in business with increasingly sophisticated, diverse and difficult-to-recognize forms of fraud. More control has caused heavy consequences for the world economy as well as the economy of each country. For Vietnam to prevent commercial fraud in the near future, in my opinion, the writer needs to focus on well implementing the following solutions:

*Firstly, Strengthening education and propaganda for businesses and all classes of people about the sense of anti-commercial fraud.*

Currently, anti-commercial fraud (including smuggling) has not been given much importance by businesses and people due to the correct awareness of the consequences of commercial fraud on economic development and economic development. Social life. Businesses and people often think that it is the work of the authorities, not the business and the people, so they pay little attention to anti-commercial fraud (including smuggling activities). The strengthening of education and propaganda needs to focus on making businesses and people aware of the harmful effects of commercial fraud (especially smuggling) that is, bringing in non-taxable goods, does not ensure quality, does not guarantee the exact origin of goods entering the Vietnamese market and this will not only adversely affect economic development but also affect the health and life of customers. people, and even negatively affect economic relations between countries. On the basis of increased

awareness, businesses and people will actively and voluntarily participate in the fight against commercial fraud, especially smuggling.

*Second, perfecting a synchronous legal system to effectively handle commercial fraud activities*

The reason why the functional forces have not completely prevented commercial fraud (such as smuggling, counterfeit goods of Vietnamese origin, quality fraud) is that the subjects took advantage of the development of the law. With the development of information technology, people's demand for buying and selling has increased. In particular, a number of legal documents and regulations related to this work are not really strict, and there are no strict sanctions to deter.

To fight against commercial fraud, if you want to get results, you have to deal with it from the root, that is, from the prevention work. Against commercial fraud, on the one hand, there must be a strong enough human force and appropriate policies to encourage it. On the other hand, in order to fight smuggling effectively and fundamentally, in the long term, it still has to be through policies and legal systems.

First of all, the legislative issue, the system of legal documents needs to be completed, revised and supplemented to always ensure the uniformity, system and efficiency, in accordance with reality. According to the authorities, the implementation of prevention and fighting measures is very difficult at present because our country's legal system is not synchronized, there are overlaps, the law is just lacking, many laws are not enough. inappropriate, the boundary between criminal and non-criminal is not really clear, leading to difficult and ineffective application.

In addition, the system of legal documents on import-export management and anti-smuggling is still general, lacks specific and strict sanctions, is asynchronous or has loopholes for criminals to take advantage of smuggling and fraud. trade, trade in prohibited goods, illegally transport goods and currencies across borders. For example: According to the Standing Office of the 389 Central Committee of the Central Government: The traceability of goods, if the enforcement agency does not have clear evidence, does not catch or inspect, it is very difficult to detect violations. The handling of infringement of rights and forgery of intellectual property is still inadequate without specific guidance on commercial scale; the cases of recidivism with the value of infringing goods under VND 200 million cannot be criminally handled... leading to the subjects taking advantage of deliberately re-offending many times but only being administratively sanctioned.

Addressing the difficult problem in dealing with smuggling and trade fraud, the Director General of the General Department of Customs Nguyen Van Can said: Regulations on origin are mentioned in laws and decrees but overlap. "The goods assembled in Vietnam and sold abroad are considered Vietnamese goods, but when consumed domestically, they do not know what to call them, like having a birth certificate without a surname..." At the same time, he petitioned. Right in the first quarter of 2020, ministries and branches need to review and promptly amend clearly and in line with reality, but until the first quarter of 2022, this has not been really edited effectively.

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like having a birth certificate without a surname...” At the same time, he petitioned. Right in the first quarter of 2020, ministries and branches need to review and promptly amend and in line with reality, but until the first quarter of 2022, this has not been really edited.

*Third, Improve the capacity to perform official duties in preventing and combating commercial fraud*

The issue of improving the capacity of the functional forces to perform official duties is an important and decisive solution to the prevention and combat of smuggling, counterfeiting and cross-border trade fraud. It is necessary to strengthen the Government’s Steering Committee 389 against smuggling, counterfeiting and commercial fraud to better direct the coordination of activities between the forces. Step up the work of force building, cadre retraining, strengthening the apparatus, strengthening internal inspection, anti-negative, protecting and abetting commercial frauds; well perform the rotation of cadres, have a mechanism to monitor and exchange information between the specialized forces. An issue that needs special attention in the near future is to improve professional ethics for officials on duty and there needs to be a good control mechanism for the organization of official duty performance.

*Fourth, Improve the competitiveness of enterprises*

One of the solutions to limit smuggling and trade fraud is to improve the production capacity and competitiveness of domestic enterprises to produce high-quality goods that can compete with international competitors. imports equally. This will lead to low-quality, cheap goods that, even if smuggled into Vietnam, are still not accepted by the market because there are already good quality, reasonably priced domestic goods. For example, years ago, smuggled Chinese confectionery flooded the Vietnamese market, but after a while Vietnamese enterprises improved their production capacity and competitiveness, Chinese confectionery products, although smuggled nor can they compete with domestic products of Kinh Do, Huu Nghi, Hai Ha companies, etc. or currently many domestic consumer goods have the same quality as products of countries with developed economies. such as: garments, footwear, consumer electronics...

*Fifth, Good and effective coordination among authorities in preventing commercial fraud*

For functional units such as Customs, Police, Border Guard, Coast Guard, Market Management, etc., it is necessary to drastically use all resources in the fight against crime according to their functions. In addition, it is also necessary to closely coordinate with each other in exchanging information, sharing experiences, and fighting against smuggling and commercial frauds.

*Sixth, international cooperation is effective in the fight against crime*

In the trend of economic integration, Vietnam has been and will be participating in bilateral and multilateral trade agreements such as joining the World Trade Organization (WTO), the Customs Union of Russia, Belarus, Kazakhstan, With these commitments, Vietnam will gradually reduce import taxes to 0% and remove barriers to protection. other households. However, this does not mean that smuggling and commercial fraud will decrease, but it will transform into more sophisticated and international forms when individuals and criminal organizations cooperate with together to commit crimes.

Therefore, in order to fight effectively, it requires not only domestic authorities to cooperate with each other, but also coordination and cooperation with law enforcement agencies of partner countries in the fight. effectively prevent and combat crime in general and smuggling and commercial fraud in particular.

## CONCLUSION

Vietnam is one of the countries with a large “openness” of the economy, so commercial fraud activities have appeared in different forms, are quite sophisticated and are having many negative impacts on people’s lives. socioeconomic life. Hopefully, with the solutions mentioned above along with the resolute direction of the Government and the consensus of businesses and people, Vietnam will gradually limit commercial fraud activities. to the lowest level in order to create a fair and healthy business environment to promote faster economic and social development.

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# ANALYSIS OF FACTORS AFFECTING CASH MANAGEMENT IN ENTERPRISES IN TEXTILE INDUSTRY LISTED ON THE STOCK MARKET OF VIETNAM

PhD. Student Vu Thuy Linh<sup>1</sup>

**Abstract:** *In the past time, the world economic situation and the Covid-19 pandemic have negatively affected the production and business results of many enterprises in our country, especially those in the textile and garment industry. In that situation, cash flow management will always be an effective tool for garment and textile enterprises to maintain production and business activities and fill income gaps. However, many businesses still have not found the answer to the problem of effective cash flow management.*

*In this study, the author uses regression models FEM, REM and Hausman to specify the factors affecting the net cash flow of listed textile enterprises. The experimental results are the basis for the author to make recommendations to improve the efficiency of cash flow management in the textile and garment enterprises listed on the Vietnamese stock market in the coming time.*

**Keywords:** *cash flow, cash flow management, textile industry, regression model.*

## 1. INTRODUCTION

Cash flow management in business is an important activity. It not only ensures smooth production and business, but also serves as a basis for businesses to outperform competitors when the time comes. In the world and in Vietnam, there have been many studies on analyzing the factors affecting the cash flow of enterprises. Detail:

- In the world:

(1) The study “Towards more flexible and accurate cash flow forecasting” by Ammar P.Kaka (1994), presents a design model using more than 50 variables to calculate the cash flow of individual contracts. In addition, some of the risks associated with construction contracts have been introduced into the cash flow model by introducing stochastic simulation. The model is tested by consolidating variables and demonstrates that the contractor’s cash flow is very sensitive to risk [3].

(2) Study on “Resource-based model for automatic cash-flow forecasting” by NaVon, R. (1995), presenting the cash flow forecasting approaches and models of construction projects. The main problem solved by the model is that solutions are proposed from different data structures of costs and work items. Additional modeling issues are time lag and payment term adjustments, material sourcing policy, actual expected working days per month, subcontractor payments, costs and forecast income streams [6].

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(3) Research “A construction project net cash flow model” by Russell Kenley & Owen D. Wilson (1986), propose a net cash flow model of construction project based on logical transformation of survey data and give two parameters to apply to each individual project. The model is a useful tool to check the net cash flow of a construction project. The study concludes that individual cash flow projections are invalid based on analysis of aggregated data [7].

(4) Research “Development of a company-level dynamic cash flow forecasting model (DYCAFF)” by Ammar Kaka & John Lewis (2003), argues that cash flow forecasting model will assist contractors in planning and managing Effectively value the cash flows of individual projects and businesses by providing an accurate cash flow method [4].

(5) Research “Do Free Cash Flow and Sale Growth Affect Firm Performance in Taiwan?” of Liao (2008) is performed on two simulations: first, the relationship of cash flow management mechanism in enterprises and agency problems; Second, the relationship of revenue growth and firm performance. Besides the three dependent variables, which are the performance of the enterprise, the corporate governance mechanism and the cash flow of the enterprise, the study also collects control variables such as the size of the enterprise, the leverage ratio, the research ratio and growth, return on assets (ROA) of the industry. The results from this study show that ROA and return on equity (ROE) tend to fluctuate inversely with the cash flow of enterprises, especially for businesses that do not have many growth opportunities. 5].

- Domestic:

(6) Doctoral thesis: “Forecasting cash flows from business activities of non-financial companies listed on Vietnam’s stock market” by Nguyen Thanh Hieu (2015) has developed the research hypothesis, specific and clear research hypothesis testing models. However, the thesis only focuses on forecasting cash flows from business activities of large-scale companies [2].

Thus, through an overview of research studies on cash flow management, the author finds a gap for his research. When determining the factors affecting the cash flow of the business, the appropriate cash flow management method will be devised, helping to maximize the value of the business.

## **2. RESEARCH METHODS AND DATA.**

### **2.1. Research Methods.**

#### **2.1.1. Formulate hypotheses for the model.**

The hypothesis in the model is posed by the author as follows:

Hypothesis  $H_1$ : The textile enterprises with large inventories, the smaller the net cash flow.

Hypothesis  $H_2$ : The larger the receivables, the lower the net cash flow, and vice versa.

Hypothesis  $H_3$ : The lower the accounts payable, the higher the net cash flow and vice versa.

Hypothesis  $H_4$ : The shorter the cash conversion cycle, the higher the net cash flow, and vice versa.

Hypothesis  $H_5$ : The larger the size of the garment enterprises, the higher the net cash flow and vice versa.

### **2.1.2. Measure the variables in the model.**

#### **a. Dependent variable.**

A business's net cash flow (NCF) represents the amount of cash from operating activities that is available for distribution after accounting for depreciation, taxes, working capital, and investments.

#### **b. Independent variables.**

- Inventories (IVT) are items of raw materials, semi-finished products and finished products that are stored in the warehouse of the enterprise. This is the most liquid asset class, difficult to convert into money.

- Accounts Receivable (ACR) is a type of business asset that represents the amount of money that has not been paid to the business by customers.

- Accounts payable (ACP) is the amount a business must pay to suppliers when purchasing raw materials for production.

The cash conversion cycle (CCC) is the amount of time it takes for a business to move money from the time it pays the supplier to the time the customer pays.

Enterprise size (SIZE) is a measure of the level of business activity.

For Vietnamese textile and garment enterprises, due to the nature of their business operations, large-scale enterprises are often able to generate better net cash flow, so the size of the enterprise can have a positive effect on the cash flow net money. To calculate the size of the enterprise, most studies use the logarithmic formula of total assets of the enterprise and the author agrees with that approach.

### **2.2. Research data.**

The data in the research is collected by the author from the audited financial statements of 50 textile and garment enterprises listed on the Vietnam stock market in the 6-year period from 2015 to 2020 and is summarized below. Table structure with 300 observations.

## **3. RESEARCH RESULTS AND DISCUSSION.**

### **3.1. Research results.**

The author uses FEM regression model with fixed effects and REM regression model with random effects to determine the influence of 5 dependent variables on net cash flow of listed textile enterprises. Vietnam stock market and the results are as follows:

- The results of the FEM model:



**Table 1: Test results of the FEM model**

```

. xtreg ncf ivt acr acp ccc size, fe

Fixed-effects (within) regression              Number of obs   =       300
Group variable: id                            Number of groups =        50

R-sq:                                         Obs per group:
  within = 0.0880                               min =           6
  between = 0.0075                              avg =          6.0
  overall = 0.0131                              max =           6

corr(u_i, Xb) = -0.8825                       F(5,170)        =       3.28
                                                Prob > F         =       0.0075
    
```

ncf	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
ivt	-.2239445	.0689289	-3.25	0.001	-.3600113	-.0878778
acr	-.1063805	.0476552	-2.23	0.027	-.2004526	-.0123084
acp	-.0703109	.0288102	2.44	0.016	.0134391	.1271826
ccc	- 9118511	1.63e+07	0.56	0.013	-2.31e+07	4.13e+07
size	6.94e+10	4.03e+10	1.73	0.016	-1.00e+10	1.49e+11
_cons	-1.86e+12	1.09e+12	-1.71	0.090	-4.00e+12	2.90e+11
sigma_u	6.210e+10					
sigma_e	6.886e+10					
rho	.44851143 (fraction of variance due to u_i)					

F test that all u\_i=0: F(34, 170) = 1.06 Prob > F = 0.3925

Source: Author's calculations from Stata 14.0

The test of the FEM model based on F-statistics shows that the above regression model is suitable (P-value = 0.0075 is less than 5% significance level).

- The results of the REM model:

**Table 2: Test results of the REM model**

```

Random-effects GLS regression              Number of obs   =       300
Group variable: id                            Number of groups =        50

R-sq:                                         Obs per group:
  within = 0.0336                               min =           6
  between = 0.0427                              avg =          6.0
  overall = 0.0157                              max =           6

corr(u_i, X) = 0 (assumed)                   Wald chi2(5)    =       3.26
                                                Prob > chi2     =       0.0094
    
```

ncf	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
ivt	-.0304962	.0394955	-0.77	0.040	-.107906	.0469136
acr	-.0066297	.0278935	-0.24	0.012	-.0613	.0480406
acp	.0128994	.0196215	0.66	0.011	-.0255579	.0513568
ccc	7253487	1.48e+07	0.49	0.024	-2.18e+07	3.63e+07
size	7.19e+09	8.28e+09	0.87	0.005	-9.03e+09	2.34e+10
_cons	-1.88e+11	2.19e+11	-0.86	0.091	-6.17e+11	2.41e+11
sigma_u	0					
sigma_e	6.975e+10					
rho	0 (fraction of variance due to u_i)					

Source: Author's calculations from Stata 14.0

The test of the REM model based on F-statistics shows that the above regression model is suitable (P-value = 0.0094 is less than 5% significance level).

Because the performance results show that both FEM and REM regression models are statistically significant, the author used Hausman test to choose the most suitable regression model with the research data set, the results is the more suitable FEM model.

**Table 3: Test results of Hausman model**

	Coefficients		(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
	(b) fe	(B) re		
ivt	-.1583079	-.0301843	-.1281236	.048946
acr	-.1053265	-.006491	-.0988356	.0427532
acp	.0524111	.0126637	.0397474	.0368289
ccc	9452516	7392380	2060136	8764195
size	7.29e+10	7.27e+09	6.57e+10	3.93e+10

b = consistent under Ho and Ha; obtained from xtreg  
 B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

$$\begin{aligned} \text{chi2(2)} &= (b-B)' [(V_b-V_B)^{-1}] (b-B) \\ &= 2.80 \\ \text{Prob>chi2} &= 0.0060 \end{aligned}$$

*Source: Performance of NCS from Stata 14.0*

Thus, in Table 3, the test results based on F-statistics show the conclusion: the FEM regression model is suitable for the research data set (F-value is less than 5% significance level). Therefore, all 5 dependent variables: inventory, receivables, payables, cash conversion cycle and business size affect the net cash flow of listed textile enterprises. Vietnamese securities.

### 3.2. Discuss research results.

From the results of the FEM fixed-effects model above, we see:

- Impact of inventory on net cash flow:

The net cash flow of the business will increase (decrease) by 0.22 units when inventories decrease (increase) by 1 unit, other things being equal.

- Impact of receivables on net cash flow:

The net cash flow of a business will increase (decrease) by 0.10 units when accounts receivable decrease (increase) by 1 unit, other things being equal.

- Impact of accounts payable on net cash flow:

The net cash flow of the business will increase (decrease) by 0.07 units when payables decrease (increase) by 1 unit, other things being equal.

- Impact of cash conversion cycle on net cash flow:

The net cash flow of the business will increase (decrease) 9,118,511 units when the cash conversion cycle decreases (increase) by 1 unit, other things being equal.

Impact of firm size on net cash flow:

The net cash flow of the business will increase (decrease) 6.94e +10 units when enterprise size increases (decreases) by 1 unit, other things being equal.

#### **4. CONCLUSION AND RECOMMENDATIONS.**

##### **4.1. Conclusions drawn from the model.**

The above experimental results show that:

- The amount of inventory has a negative impact on the net cash flow of listed textile enterprises.

Through the data collected in the last 6 years, it can be seen that the inventory of listed textile enterprises tends to increase gradually, causing capital stagnation. This is a bad signal that negatively affects the net cash flow of the business

- Receivables have negative impact on net cash flow of listed textile and garment enterprises.

The data collected in the financial statements of 50 enterprises in the textile and garment industry for the period 2015 -2020 shows that receivables tend to increase sharply in the two years of 2019 -2010, proving that textile enterprises are being occupied. capital, significantly affecting the cash flow of these enterprises.

- Accounts payable has negative impact on net cash flow of listed textile enterprises.

The data collected in the financial statements of 50 enterprises in the textile and garment industry for the period of 2015 -2020 shows that payables tend to increase sharply in the two years of 2019 -2010, proving that the textile and garment enterprises are facing problems. on ability to pay.

- Cash flow cycle has negative impact on net cash flow of listed textile enterprises.

The data collected in the financial statements of 50 textile and garment enterprises for the period 2015 -2020 shows that the cash conversion cycle fluctuates unevenly, with negative values from 2015 to 2018 and positive values in two years. 2019 -2020 proves the effective cash flow management of textile and garment enterprises that are misappropriated capital, significantly affecting the cash flow of these enterprises.

- Enterprise size has a positive impact on net cash flow of listed textile and garment enterprises.

##### **4.2. Some recommendations to improve cash flow management in textile and garment enterprises listed on Vietnam's stock market.**

**\* For inventory:**

- **Minimize storage costs.**

Inventories that affect cash out are raw materials for the production and business process. Therefore, in order to manage cash flow well, garment and textile enterprises need to:

+ Forecasting the demand and balancing the amount of materials to be imported on the basis of making a plan for business activities based on the situation of the reporting year, detailing the quantity by month and quarter.

+ Regularly monitor the fluctuations of the commodity market, thereby predicting and timely adjusting the import of raw materials. This is a very important measure to preserve capital of textile enterprises.

+ Stabilize the supply chain and maintain an efficient inventory: textile businesses need to base on inventory stocking models to determine optimal inventory levels, new order points and lead times order because supply chains in regions may be disrupted due to the impact of the epidemic.

**- Optimize order policy.**

+ Select suppliers with attractive selling prices and policies, consider carefully before paying early to enjoy discounts from suppliers. In addition, financial managers need to pay attention to connecting information and keeping relationships with suppliers because when an epidemic occurs, there may be a sudden increase in the need to store raw materials.

+ Set up a quick response team to handle unusual problems arising in terms of supply and production materials. This is an effective method to balance cash flow. In addition, it is necessary to check the quality of goods when imported. If the goods are of poor quality, it is necessary to ask the supplier to compensate to avoid damage to the business.

**\* For accounts receivable:**

**- Completing trade credit policy.**

Each type of business will have its own characteristics and be affected by fluctuations in each different economic period. Therefore, textile enterprises when drafting economic contracts need to consider policies to expand or narrow clear terms of sale, depending on specific goals and times and economic factors of the market but ensure compliance with current policies and regimes.

+ Credit standards: when signing sales contracts, textile enterprises need to carefully collect customer information from many different channels to decide on the appropriate credit level, to avoid falling into the situation of capital appropriation.

+ Credit term: businesses need to have a tight bond in the sales contract, require customers to sign an agreement, set out specific regulations on debt payment and offer a penalty interest rate in case late payment customers.

**- Strengthening the organization of receivables management.**

+ When drafting a comprehensive credit policy, textile enterprises need to thoroughly implement it to ensure respect for honesty, objectivity and fairness with customers. The implementation requires creativity, flexibility, and reasonable changes when necessary. In addition, textile enterprises need to consider environmental factors affecting the conditions of customers and the current conditions of the business to achieve the highest efficiency.

+ Businesses that provide commercial credit to customers need to carefully consider their solvency on the basis of the contract signed between the parties. Enterprises need to draft contracts that show close ties with customers and have a credit policy suitable for each customer.

+ Enterprises need to open regular and detailed monitoring books of receivables from customers in order to accurately assess the solvency of customers, thereby making correct and timely decisions. In addition, businesses need to have specific implementation guidelines including regulations on credit policies, conditions for customers to enjoy incentives, necessary business processes...to serve as a basis for their credit policies departments in the enterprise compare performance.

+ Ensure clear assignment, arrange reasonable human resources to urge, monitor receivables and collect debts on the basis of existing resources of the business. The coordination and combination of departments to perform the tasks of receivables management will bring optimal efficiency.

**\* For payables:**

- Review investment portfolio, reallocate investment resources to optimize efficiency and optimize loans. In addition, enterprises in the textile and garment industry should review their product structure, customer structure and pricing policy; Review procurement and supply chain costs, optimize taxes and optimize working capital.

- Summarize fully and in detail the forms including: detailed record, reconciliation table or payment confirmation table to suppliers. In addition, when managing cash outflow from each specific aspect, appropriate forms should be added. Specifically: detailed management of payables by each invoice and by payment term needs attention: reporting the debt age of the bills (usually divided by week or month), the list of bills due for payment, list of overdue invoices, list of outstanding invoices of suppliers...

- It is necessary to flexibly use tools to minimize payment risks and take advantage of the term payment cash flow through trading futures contracts or covered warrants...

**\* For cash conversion cycle:**

**- Shorten raw material storage time:**

To accomplish this goal, before production, textile enterprises need to predict market demand, learn about competitors to decide the amount of raw materials to buy, and avoid over-stocking raw materials compared to production targets, causing capital stagnation, negatively affecting cash flow of enterprises.

**- Shorten the storage time of finished products:**

+ Comply with the process of consuming finished products.

In order to shorten the storage time of finished products, enterprises in the textile industry need to follow the consumption process well. Specifically, when a sales operation arises, the sales department staff makes a request to release the warehouse. The accounting department, based on the approved warehouse release request form, checks the status of finished products in the warehouse, and at the same time writes invoices, records and records operations arising from the warehouse. The warehouse keeping department unloads finished products and writes stock cards. On a monthly or quarterly basis, there is a reconciliation between the accounting department and the warehousing department to promptly detect and take measures to deal with problems immediately.

+ Expanding the consumer market:

Textile and garment enterprises need to build and expand service systems in potential markets. Specifically: it is necessary to strengthen cooperation relationships, expand consumption markets, promote marketing, market research, capture customer tastes and at the same time establish a system of stores and distribution agents consumption on a large scale. Currently, the products of a number of textile and garment enterprises are mainly consumed through agents. In order to expand the consumption network, textile enterprises need to gradually build a system of many new distribution stores to speed up sales with old agents.

**- Shorten customer collection time:**

To shorten the time to collect money from customers, enterprises in the textile industry can reduce prices and give discounts to customers who pay early. This will encourage customers to pay their bills quickly. Other strategies are to offer customers a fixed payment plan and accept different payment methods such as credit cards, visas, wire transfers via e-wallets like momo or zalopay, write checks.

**- Extend the time to pay suppliers.**

+ Create trust for suppliers by improving the reputation of the business: stabilizing and rationalizing financial indicators, paying debts on time; present business results, capital turnover efficiency in the past year and prospects for the coming year.

+ Defer payment by negotiating with the supplier: it is recommended to use wire transfer on the last day of the due date. Thus, the business can both meet the requirements of the supplier and still be able to use the money as long as possible;

+ Using factoring: textile businesses can sell invoices to a factoring company to collect cash. Factoring companies will prepay 80% to 90% of the invoice value. Textile businesses can use this money to pay suppliers, business expenses and put the rest in reserve. Typically when factoring is used, a business's cash conversion cycle is shorter, allowing inventory to turn into cash more quickly.

## **5. CONCLUSION**

Through qualitative and quantitative research, the author has assessed the influence of factors affecting cash flow management in textile enterprises listed on Vietnam's stock market. On that basis, the author gives recommendations to improve the efficiency of cash flow management in enterprises in the textile and garment industry in the coming time. This will be the basis for textile enterprises to ensure their solvency, avoid facing financial risks, and is necessary to increase profits, strengthen sustainability and prospects. develop in the future.

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# THE SHARING ECONOMY, ENVIRONMENT AND SOCIAL SECURITY: GRAB CASE STUDY IN VIETNAM

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**Abstract:** *The rapid development of information technology and Internet connectivity is creating new economic forms. The sharing economy, which encompasses a large set of activities based on the use of digital platforms and peer-to-peer relationships is an example of that. The idea of cooperative consumption, based on access to property rights and the ability to establish socioeconomic relationships that take place outside the traditional business environment, highlights the possibility of a model consumption which can reduce the impact on the environment and increase socioeconomic opportunities for members of society. The article examines the benefits of the Grab sharing economy model in Vietnam on the environment and social security. Based on the results of a survey with 2,200 grab car and motorbike drivers in big cities in Vietnam, the authors show that the sharing economy has had positive effects on the environment, as shown by the evaluation of drivers that the grab model has reduced emissions, waste and saved energy. However, the grab model has limitations in terms of social security for drivers. Specifically, drivers participating in the sharing economy model are not guaranteed social insurance, health insurance and accident insurance*

**Keywords:** *sharing economy, environment, social security, grab*

## 1. INTRODUCTION

The rapid development of information technology and Internet connectivity is creating new economic forms. The sharing economy, which encompasses a large set of activities based on the use of digital platforms and peer-to-peer relationships is an example of that. Born with the growth of online connections and spurred by the global financial crisis of 2008, the sharing economy emerged as an alternative consumption model based on the shared use of private resources. Due to its potential to create new business opportunities and satisfy consumer needs outside of the traditional market system, the sharing economy has attracted considerable global attention. The idea of cooperative consumption, based on access to property rights and the ability to establish socioeconomic relationships that take place outside the traditional business environment, highlights the possibility of a model consumption which can reduce the impact on the environment and increase socioeconomic opportunities for members of society. Many studies in many countries

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have shown that the sharing economy has had a significant impact on the environment through reducing emissions and energy, encouraging greener consumption and transportation. The article examines the benefits of the Grab sharing economy model in Vietnam on the environment and social security based on the results of a survey with 2,200 grab car and motorbike drivers in big cities in Vietnam. The paper aims to answer the following questions: (i) to what extent do the sharing economy bring benefits to the environment and (ii) what social security benefits do drivers receive when participating in the sharing economy model?

## 2. LITERATURE REVIEW

Although the concept of the sharing economy has been around for a long time, there is still no universally accepted definition of the sharing economy as well as its effects on the economy, the environment and the society. Dalberg (2016: 2), for example, defined the sharing economy as “the sharing of assets – physical, financial and/or human capital, among many people without transfer of ownership, through digital platforms to create value for at least two parties,” and Mohlmann (2015: 193) argues that the sharing economy is all activities in which “participants carry out activities sharing in the form of leasing, lending, buying, selling, bartering and swapping goods, services, transportation solutions, space or money.” Matzler et al. (2015), in contrast, define the sharing economy in terms of key activities that characterize interactions, namely, (i) a product-service system based on ownership private and shared use of products and services (e.g. Airbnb, Uber, Zipcar); (ii) a redistribution system, characterized by the exchange of monetary or non-monetary products (e.g. NeighborGoods, Freegle, Freecycle); and (iii) a collaborative lifestyle environment in which people share space, capabilities, and time (e.g. Kickstarter, TaskRabbit, Timebanking). With its two main distinctive elements, the use of information technology and temporary access instead of ownership, the sharing economy is often described as an umbrella for a wide range of non-profit and non-profit activities including the provision of goods and services and financial support (Acquier et al. 2017; Schor 2014; Sundararajan 2016).

From a theoretical perspective, the sharing economy is described as a possible solution to the uncertainties created by traditional market-regulated exchanges. In particular, the sharing economy has been positioned as a system that can contribute to the transition towards a more sustainable future (Botsman and Rogers 2010). The idea of cooperative consumption, based on access to property rights and the ability to establish socioeconomic relationships that take place outside the traditional business environment, highlights the possibility of a model consumption which can reduce the impact on the environment and increase socioeconomic opportunities for members of society. Based on the use of the potential of “shareable goods”, it is argued by Benkler (2004) that the sharing economy has the potential to improve environmental standards by reducing pollution and consumption.

In the transportation sector, vehicle sharing can have a positive impact on the environment by reducing the number of kilometers traveled. Such sharing activities can also stimulate lasting changes in consumer behavior by shifting individual transport choices from ownership to shared use based on need. On average, people own fewer cars and drive less after becoming a car-sharing member. This provides environmental benefits from reduced vehicle production, maintenance, use and disposal. As carpooling members drive less often, they may also increase their use of public

transport, which in turn can reduce emissions. Reducing vehicle and motorized traffic can also reduce congestion and the need for infrastructure, such as parking. In addition, the average shared vehicle typically uses less fuel and emits less pollutants than a regular private vehicle because shared fleets typically include newer and more energy efficient vehicles.

Nemry et al. (2008) estimated that the production, maintenance and disposal of an automobile generates about 5 tons of CO<sub>2</sub>e-emissions. Using this estimate and assuming that sharing a car could reduce 2 to 7 individual cars, the CO<sub>2</sub>e emissions from the production, maintenance and disposal of cars could be reduced by about 10 up to 35 tons per shared car. Divided equally by the average life of a car of 13 years, the average annual reduction is between 0.8 and 2.8 tons of CO<sub>2</sub>e. Similarly, a study by Nijland et al (2015) based on a survey of 165 carpooling members in the Netherlands found that car-sharing reduced emissions from vehicle manufacturing and demolition by 85 to 175 kilograms per household member per year.

Emissions due to shared car use will also be significantly reduced. Nijland et al. (2015) conducted a survey among car sharing members in the Netherlands. Survey results show that car sharing reduces CO<sub>2</sub>e emissions per household by 90 kg per year. Ryden and Morin (2005) conducted a survey among car sharing members in Bremen and Belgium. The results show that the number of kilometers traveled by car is reduced by 28% in Belgium and 45% in Bremen. Car-sharing fleets typically include newer, lower-emissions cars than the average individual car. Momo (2010) found that shared vehicle fleets registered as much as 15 to 20% lower CO<sub>2</sub> emissions, in some cases as much as 25% lower than the average private car. Based on survey responses from car-sharing members in Belgium, Ryden and Morin (2005) estimate that carpools consume 17% less fuel on average - and emit 17% less CO<sub>2</sub> - than with the average personal car.

In term of social aspect, the sharing economy have transformed work and employment in different ways. Significant changes in online labour markets that have been scrutinized by studies are work schedules (Lehdonvirta, 2018; Schörpf et al., 2017a; Shevchuk et al., 2019), autonomy (Pichault and McKeown, 2019). Accordingly, the sharing economy provided temporal flexibility and practices of time use. Workers in the sharing economy also enjoyed their autonomy as this sector liberalized the employment relations (Forde et al, 2017). Besides, there are also evidences show that the sharing economy poses risks and negative impacts on workers. A research of Dunn (2020) shows that the sharing economy affects negatively worker's lives such as the feeling of insecure about their source of income. Another study reveals that workers who work in the sharing economy face difficulties in maintainig work-life balance in time and space arrangement (Pichault and McKeown, 2019).

### **3. METHODOLOGY**

Two answer the two afromentioned questions, this article analyzes data from the study “Social impact of the sharing economy model: Grab case study” conducted in 2021. 2,200 grab car and grab bike drivers in 3 big cities, including Hanoi, Ho Chi Minh City and Da Nang, and some provinces bordering on these 3 provinces have involved in this study. Out of 2,200 grab drivers, 87% are grab car drivers and 13% are grab bike drivers. The number of survey samples divided by province is as follows: 44% in Hanoi, 39.7% in Ho Chi Minh City, 9.2% in Da Nang, 2.0% in

the province bordering Hanoi, 3.5% in the province bordering the Ho Chi Minh City and 1.6% in the province bordering Da Nang. In terms of gender, 94.5% of survey respondents are male and only 5.5% female. The time to participate in grabcars and grab bikebikes of survey participants is described in the following table 1.

**Table 1. Time to participate in grab (%)**

Type of grab	Time to participate				
	Under 6 month	From 6 months to under 1 year	From 1 year to under 2 years	From 2 years to under 3 years	From 3 years and above
Grab bike	13	14.7	31.2	22.9	18.2
Grab car	20.8	9.7	24.6	22.4	22.5

The grab drivers are asked to evaluate the environmental sustainability of the grab model compared to the traditional taxi model. In addition, grab drivers were also asked about the social security benefits brought by the grab model in terms of social insurance, health insurance, death benefit, and accidents insurance and support drivers in difficult circumstances.

#### 4. RESEARCH RESULTS

**Table 2. Evaluation of the environmental sustainability advantages of the grab model compared to the traditional model (%)**

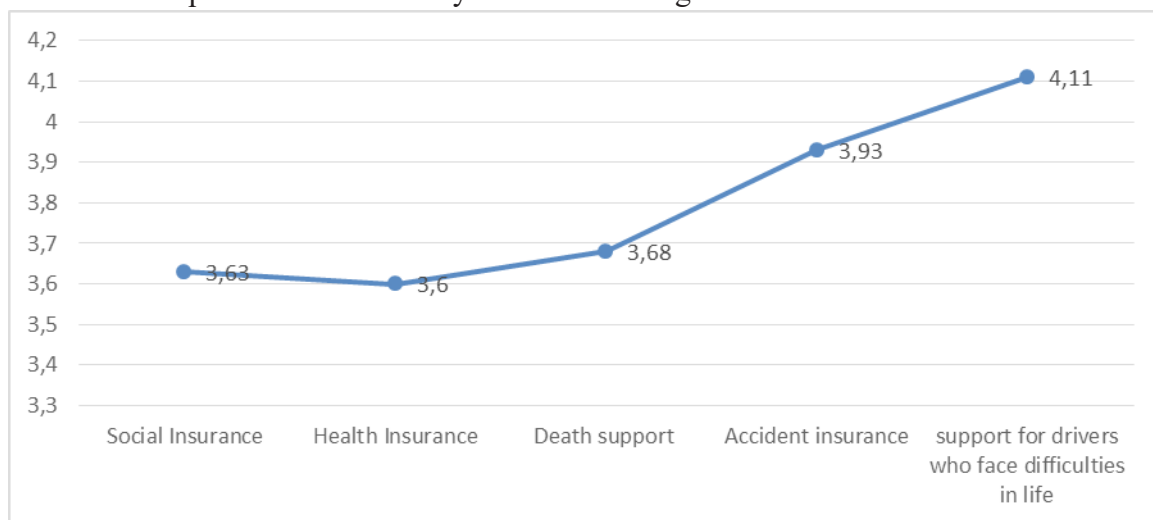
Environmental sustainability of the Grab model	Level of agreement				
	Totally Disagree	Disagree	Neutral	Agree	Totally Agree
Increase utilization of idle personal assets for sharing use	1.6	1.5	9.3	43.1	44.5
Limit ownership of new vehicle assets to save resources	1.8	3.5	13.9	42.1	38.6
Limit plastic bags and waste- plastic boxes	1.6	3.4	11.9	38.0	45.1

To consider the benefits of the sharing economy to the environment, the study uses questions to assess the environmental sustainability of the grab model compared to the traditional taxi and motorbike models. The criteria for evaluation include 4 groups of criteria: (i) access to use; (ii) saving resources; (iii) reduce emissions and (iv) reduce waste. Evaluation of these criteria is based on a Likert scale, in which 1 is strongly disagree and 5 is strongly agree. The analysis results show that grab drivers highly appreciate the advantages of the grab model in increasing the use of idle personal assets to share access to use with an average score of 4.27/5 points. Similar to the criteria “saving resources” and “reducing waste”, the respondents also highly appreciated this advantage of the grab model compared to the traditional model with the average score of 4.12 and 4.22/5, respectively. The percentage of respondents agree and strongly agree with each criterion is (Table 2).

When considering the advantages of the grab model compared to the traditional model in terms of emission reduction, the study uses a group of 5 evaluation factors including (i) emission reduction by using GPS positioning to pick up and return passengers at the right places (ii) reducing emissions by booking rides in advance instead of having to find passengers (iii) reducing emissions by knowing passenger information and sharing journeys (iv) increasing safety, saving fuel, reduce emissions

when traveling on the right GPS route (v) reducing emissions by identifying the same vehicle as registered via the application (eligible vehicles are checked by Grab, avoiding too old cars). The analysis results show that the respondents' assessment of the overall emission reduction of the grab model compared to the traditional model is also very high with an average score of mean= 4.3.

In terms of social aspects, grab drivers were asked to evaluate the social security of the Grab model compared with the traditional model in terms of social insurance, health insurance, death benefit, and accidents insurance and support drivers in difficult circumstances. The survey results show that grab drivers do not appreciate the difference of the grab model compared to the traditional model in ensuring social security for drivers. Specifically, according to the Likert scale from 1 to 5, where 1 is strongly disagree and 5 is strongly agree, the average score for the indicator of social security is only 3.79/5, which means it has not reached the level of agree. The specific average scores for each aspect of social security are shown in Figure 1.



**Figure 1. The evaluation of driver on grab model in ensuring social security (mean score based on likert scale from 1 to 5)**

Looking at the Figure above, it can be seen that grab drivers do not appreciate the social security for grab drivers, with an average score is below 4. Only the aspect of “assisting drivers in difficult circumstances” was reached the agree level (mean= 4.11). This result is also consistent with studies in some countries on the social security of sharing economy participants, especially in the transportation sector. It can be seen that this is a policy gap for freelance and informal workers, including grab drivers. The majority of grab drivers are from self-employed, freelance workers, students, and small traders who do not participate in social insurance elsewhere. On the other hand, they also have to work in difficult conditions: weather, roads, collisions, accidents; under pressure from customers; even the issue of sexual harassment and many other dangerous behaviors. Therefore, ensuring social security for this person is a necessary job to ensure the rights and achieve satisfactory employment for all subjects in society.

## 5. CONCLUSIONS AND RECOMMENDATIONS

The strong development of technology 4.0 has formed new economic forms, including the sharing economy. The sharing economy has both positive and negative economic, social and

environmental impacts. The analysis results of the study show that the sharing economy has had positive effects on the environment, as shown by the evaluation of drivers that the grab model has reduced emissions, waste and saved energy. Despite bringing environmental benefits, the grab model has limitations in terms of social security for drivers. Specifically, drivers participating in the sharing economy model are not guaranteed social insurance, health insurance and accident insurance. Therefore, the authors propose some recommendations in order to protect the drivers and promote the decent work as follows:

- It is necessary to make changes and amendments to the Law on Social Insurance, the Law on Health Insurance and other policies to increase the accessibility of social security programs for the self-employed in general and grab drivers in particular, in the direction of expansion, flexibility, suitable characteristics and actual conditions of employment and income of subjects in the coming time.
- There should be regulations to encourage connection service providers to support drivers to participate in the State's social security regimes, especially social insurance and health insurance.
- It is necessary to strengthen the legal responsibility and social responsibility of the grab company in ensuring the rights of drivers participating in this economic model.

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# SUSTAINABLE DEVELOPMENT FOR REAL ESTATE COMPANIES AFTER COVID- 19

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**Abstract:** *This paper focuses on the current status of Vietnam economy in general and real estate companies in particular after Covid- 19. Basing on these facts, the authors points out some challenges as well as some recommendations for sustainable development of real estate companies in the future. By using statistical approach, data synthesis and data analysis, the authors pointed out factual situations of Vietnam economy such as: increase in industrial production, domestic and international transportation, export and import activities and invested capital as well as the number of newly registered buisnesses. Besides, some challeges for real estate companies were explored such as low labor productivity, exhausting natural resources and high GHG emission, low quality, growth efficiency and competitiveness of the economy and unstable macroeconomy. In addition, the paper emphasized four suggestions for real estate businesses: (1) diversify channels of capital; (2) restructure real estate businesses; (3) improve financial management ability; (4) support tenants in finance.*

**Key Words:** *opportunities, challenges, growth, sustainable development, real estate companies.*

## I. RATIONALE OF THE STUDY

For the last 15 years, Vietnam's government has focused on economic development to help Vietnam escape from the group of poor countries in the world. As a result, Vietnam's economy has grown at high and pretty steady speed. Inflation rate has generally been controlled. Unemployment rate has also decreased because of production expansion of domestic and foreign businesses in Vietnam. Increased income led to people's higher living standards and better social security. However, the world economy as well as Vietnam economy has been heavily affected by the Covid-19 pandemic. In this study, authors highlighted current status of Vietnam economy in general and challenges for real estate business in particular. Basing on the revealed information, some recommendations were given to real estate businesses to develop sustainably after the pandemic.

## II. RESEARCH QUESTIONS AND METHODOLOGY

### 2.1. Research questions

To make the matter clear, three research questions were raised as follows:

1. What have been some facts of Vietnam economy after the Covid- 19 pandemic?
2. What are some challenges of real estate businesses in Vietnam after the pandemic?
3. What are some recommendations for real estate businesses in Vietnam after the pandemic?

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## 2.2. Methodology

In this study, quantitative research method was employed with statistical approach. Statistics about the situation of Vietnam economy were collected in a period of 11 years: from 2010 to 2021. Some figures on challenges for the economy and real estate companies were recorded in 2017. After that, they were analyzed and synthesized. From that, it revealed challenges to real estate businesses in Vietnam.

## III. FINDINGS OF THE STUDY

### 3.1. Facts on Vietnam economy in 2021

In 2021, Covid- 19 had a greatly negative impact on Vietnam economy. For example, GDP in the third quarter decreased significantly, down 6.02% compared to the same period in 2020. Many major provinces and cities of industrial production such as HCMC, Binh Duong, Dong Nai, ba Ria- Vung Tau, Long An, Ha Noi, Bac Ninh, Bac Giang were heavily influenced. The government offered urgent solutions to prevent the pandemic widespread and promote economy to ensure social security. Especially, the Resolution 128/NQ- CP issued on 11<sup>th</sup> October 2021 on “adapt safely, flexibly and control effectively Covid- 19 pandemic” along with other policies to ensure social security loosened the economy and put production activities back into a new normal situation, increased the interaction among areas. As a result, economy improved during the last quarter 2021. The economy grew approximately at 2.58%, which was a big success in prevention of the pandemic. The achievement was illustrated as the following:

- In industrial production, industrial production index climbed to 4,8% compared against 2020 (3.3%). This increase shed a light on the general economic growth during the pandemic in 2021. Namely, the production index of processing industry, mechanical engineering industry was higher than that of 2020. Metal production, export of iron, steeland export of steel products increased 22.1%, 123.4% and 29.4%, respectively. Production of engine cars was up 10.2% (export of means of transportation and spare parts grew 17.6%). Coal mining, export of coal, production of coal and refined oil, and export of oil increased 9%, 119.9%, 8.1%, and 45.9%, respectively. Textile, clothing production, and export of textile increased 8.3%, 7.5%, and 9.2% correspondingly. Manufacturing of electronic products, computers and optical products, export of electronic products, computers and spare parts, cellphones and spare parts rose, correspondingly 9.6% 13.8%, and 12.2%<sup>1</sup>.

- In terms of domestic and international business and transportation activities, in comparison with the third quarter of 2021, the fourth quarter came with an increase of 28.1% in the retail of goods and revenue from consumption services, of 48.4% in passenger transportation, of 51.3% in passenger rotation, of 31.8% in goods transportation and of 28.4% in goods freight rotation; of 62.7% in international visitors. In comparison with 2020, there was a fall of 3.8% in the total value of retails of goods and revenue from consumption services (excluding the decrease in the price of goods of 6.2%), of 33% in passenger transportation (a reduction of 29.6% in 2020) and freight rotation down 42% (a reduction of 34.1% in 2020); goods transportation dropped 8.7% (a reduction of 5.2% in 2020) and freight rotation decreased of 1.8% (a reduction of 6.7% in 2020). International visitors fell by 95,9%.

<sup>1</sup> Report of Ministry of Industry 2021



+ Total export and import revenue maintained high growth, which is a good signal for the whole economy. In 2021, total turnover from import and export reached 668.5 billion USD, increased by 22.6%. In detail, export turnover was 336.25 billion USD, increased by 19%, import turnover was 332.25 billion USD, increased by 26.5%, mainly imports of production materials (93.5% of total imports)- rose by 26.8%.

- Regarding invested capital and foreign capital, FDI continued to grow, new sources of foreign capital increased. This means that foreign investors keep trusting in investment in Vietnam. In 2021, basing on current price, total investment of the entire society was 2891,1 thousand billion VND, increased by 3.2%. On 20<sup>th</sup> December 2021, total foreign investment in Vietnam was 31.15 billion USD, increased by 9.2% in comparison with 2020<sup>1</sup>.

– In addition, compared with the 3<sup>rd</sup> quarter, in the 4<sup>th</sup> quarter 2021, there was an increase in the number of new registered companies, amount of registered capital and number of workers, respectively 70.4%, 64.1% and 24.7%. In general, in 2021, the quantity of newly registered companies, registered capital and workers decreased, correspondingly 13.4%, 27.9% and 18.1%.

Moreover, the structure of the economy has changed dramatically, the number of workers in agriculture reduced from 55% to 44% (1.3% yearly)

Criteria	Unit	2010	2015	2020
GDP in structure of sectors	%	100	100	100
Agriculture	%	21	18,9	17
Industry- construction	%	36,7	37	37,1
Service	%	42,2	44,2	45,8
GDP in structure of ownership	%	100	100	100
Private- owned	%	49,1	48	46,4
Public company	%	4,6	4,5	4,2
Sole proprietorship	%	7,9	8,8	9,6
Individuals	%	36,7	34,8	32,6
State- owned	%	33,6	31,9	31,8
FDI	%	17,3	20,1	21,8
Structure of workers	%	100	100	100
Agriculture	%	49,5	44	40,2
Industry- Construction	%	21	22,7	25,8
Service	%	29,5	33,2	34,1

### 3.2. Challenges for real estate companies

Firstly, low labor productivity results in low efficiency of inputs and growth quality, competitiveness. Vietnam's labor productivity is lower than that of other countries in Asean. It is more difficult to keep up with other countries' development and the road to a high- income country is further.

Labor productivity according to current price was estimated at 84.5 million VND per worker, much lower than that of other countries in the area. According to the price in 2010, on average, labor productivity increased 4.01% year by year from 2016 to 2020, lower than GDP growth rate.

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Thus, it is necessary to make a big change to increase labor productivity to reduce the gap in development between Vietnam and other countries in the area.

Unskilled labor constitutes 80%. Sectors (agriculture- forestry- fishery) accounts for 42%, of which unskilled labor accounts for 96%. Business has 17% of laborers, of which 77% are unskilled. Therefore, allocation of labor should be clear and consistent.

Secondly, natural resources are becoming exhausted, environmental pollution and climate change effect are becoming more and more serious, energy security is not firmly ensured.

Fast economic growth puts a heavy pressure on natural resources and, environment such as air, land and water. Environmental quality reduction, waste discharge, environmental pollution are more and more complicated and serious in many places, which harms people lives today and in the future.

**Table 01: Greenhouse emission during production process**

2017			
Ordinal number	Industry	Greenhouse gas emission (GHG) per 1 unit of the last demand increase	Average influence
1	Agriculture- Forestry- Fishery	0.103	<b>2.573</b>
2	Mining	0.044	<b>1.104</b>
3	Food- beverage- cigarette production	0.060	<b>1.497</b>
4	Textile clothing and leather products	0.017	0.427
5	Manufacturing Oil and gas products	0.029	0.714
6	Manufacturing chemical products products	0.025	0.636
7	Manufacturing non metal and mineral products	0.141	3.523
8	Manufacturing metal and metal products	0.012	0.302
9	Manufacturing equipment and machines	0.024	0.602
10	Other mechanical manufacturing industries	0.069	1.732
11	Manufacturing and distributing electricity, gas, hot water, water gas and air conditioner	0.017	0.417
12	Water supply, management and treatment of waste and wastewater	0.080	<b>1.998</b>
13	Construction	0.099	<b>2.472</b>
14	Transportation	0.021	0.527
15	Wholesale and retailing businesses, hotels and restaurants	0.021	0.534
16	Communication and media	0.019	0.479
17	Finance, banking and insurance	0.003	0.081
18	Science and technology	0.009	0.228
19	Education and training	0.005	0.123
20	Medicare and social support	0.025	0.633
21	Other services	0.016	0.398

Source: <sup>1[23]</sup>

Basing on the table, the industry which emits the highest GHG is manufacturing non metal products, 3.3 times as high as the average level. The next is construction with 2.39 times and Agriculture- forestry- fishery with 2.36 times. In addition, water supply and management and treatment of waste and wastewater, mechanical engineering industry and food-beverage- cigarette production and mining emit GHG at higher level than the average level of the economy. Agriculture- forestry- fishery sectors emit waste to create greenhouse twice as much as the economic emission in general. One notable thing is that transportation does not exhaust as much as GHG as we expect. Most services do not affect badly environment.

On the whole, although Vietnam economic growth is rather high, growth quality is not so good and we forget environment factor. Industry structure and interindustry structure can harm macroeconomic level and pollute the environment.

Thirdly, economy does not grow fast enough, sustainably and grows slower than its potential, target and other developing countries' economies. Low quality, growth efficiency and competitiveness can lead to a slide of the economy.

Economic growth model mainly bases on the capital, unskilled labor, resources exploitation. This model is slowly transformed to the model which bases on leadership, management, technology, creativity, labor quality. Capital and labor accounts up to 70% GDP growth whereas TFP only accounts for the rest (30%).

Low investment efficiency can decrease quality and efficiency of the economy. Looking at the capital efficiency through ICOR in 3 sectors: State- owned, Private- owned and FDI during 2010-2016, it can be shown that state- owned sector is the least efficient, 5.1 dong of investment can create 1 dong for value added, next is FDI, 3.5 dong of investment can create 1 dong for value added, private- owned sector is the most efficient with 2.6 dong of investment and 1 dong value added<sup>1</sup>. However, the state- owned sector gets the most capital with 39%, so this sector makes economic investment efficiency lower and lower with ICOR of 3,5).

The biggest weakness of the economy is management model, especially in allocation of resources. State-owned sector receives the highest capital while private- owned sector gets the least. In state- owned sector, individuals constitute the highest percentage of GDP (over 30%), cooperative model accounts for 7% GDP and private companies accounts for 8%. Therefore, ICOR of this sector is low, which points out that private- owned sector is small and households can create value added without a lot of capital.

Fourthly, macroeconomy is not so sustainable. There are some factors that can cause unsteady economy such as savings imbalance, lengthy investment, current BOT deficit, high inflation, deficit spending, high public debt, unsteady money market with high interest, fluctuation of exchange rate, ups and downs of securities market; stagnant production and high number of dissolved companies.

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<sup>1</sup> ICOR is counted for a period because capital is often efficient after a period. In Vietnam, ICOR is counted yearly and divided by GDP for both numerator and denominator:  $ICOR = (\text{investment rate according to comparative price} / \text{GDP growth rate}) / \text{GDP according to comparative price}$ .

### 3.3. Suggestions for real estate companies in the future

Firstly, diversify the channels of capital to actively respond to bad situations of Covid-19.

Real estate market can attract a variety of capital sources, the size and price of real estate markets have a positive relation with the size and speed of capital sources. They are interdependent on each other. Real estate products have 2 key features:

- ✓ Big to very big value;
- ✓ Much lower liquidity than other money market products.

Accordingly, capital in this market or real estate companies must be:

- ✓ Large size (from hundreds of millions of VND to billions of VND);
- ✓ Long- term investment (mainly medium- term, from 1-3 years to 10 years)

So far, medium and long- term capital mainly come from: (i) medium and long- term credit for companies and real estate projects but this source is influenced by some rules of credit for real estate products such as loans for real estate as mortgage and mortgage solution by real estate, some limitations of commercial banks and financial sanctions of Vietnam; (ii) most real estate companies are small and medium so they have limited capital, moreover, big ones' capital is split up and they are lack of profession in real estate investment; (iii) Foreign investment in both direct and indirect form tends to increase but this source focuses on one or some segments of tourism, luxury office and aptment building, restaurants, hotels and shopping center etc and it does form a nessesarily stable tendency; (iv) Capital from business bonds is taking the first step but there is a lack of law and legal lobby for raising long- term capital from citizens is not clear and sufficient.

Secondly, it is time for real estate companies and corporations to restructure for lean and efficient operation; investment restructure, major product restructure, focus on social buildings which are suitable for society's income and meet the real demand for houses. Companies should consider business strategies, product segments to meet the real situation. For example, Covid-19 forces us to work online or work on digital base, so real estate businesses should adapt to this trend with some services like online selling. Green products are more attractive because they can create a safe living place, a profitable investment and suitable place for social distancing. Real estate companies also pay more attention to products which are at medium price to suit society's income.

Thirdly, real estate companies need to improve capacity of finance management and crisis management to balance their potentials. Today a lot of companies take financial leverage, so when big changes occur in the markets, they have to incur heavily financial losses. Therefore, companies have to sell at loss to ensure finance or to prevent from bankruptcy, actively change the business plan, reduce the unnecessary costs, change project schedules etc.

Finally, companies need to combine some ways to support tenants such as rent reduction, payment delay, rent exemption in a short time; reducing real estate prices, increasing discounts.

### IV. CONCLUSION

To sum up, Vietnam has some opportunities:(1) Vietnam attracts foreign investors because we consistently promote the reformation of business and investment environment. In the context of

USA- China trade war, investors transfer their capital into ASEAN countries, including Vietnam; (2) Vietnam is in the period of golden population structure and is one of the countries with the fastest urbanization, which has become the stimulation of housing development regardless of Covid- 19 effect; (3) Speed of population increase in cities creates a high demand for new housing projects; (4) Open policies for owning a real estate for overseas Vietnamese and foreigners can bring a promising breakthrough for real estate markets in the near future. We hope that Vietnam economy and real estate markets will recharge and develop sustainably. This is the time for real estate companies to motivate restructuring, carefully prepare necessary conditions, look for and define the target for strategic development in the next few years.

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## Appendix 01:

### GDP and value added at basic price of economic sectors (2010)

Unit: Billion VND

Year	GDP/VA				Tax
	Total	State- owned	Private- owned	FDI	
2010	2,157,828.0	633,187.0	926,928.0	326,967.0	270,746
2011	2,292,483.0	663,530.0	1,000,475.0	352,123.0	276,355
2012	2,412,778.0	702,017.0	1,060,587.0	378,236.0	271,938
2013	2,543,596.0	735,442.0	1,110,769.0	407,976.0	289,409
2014	2,695,796.0	765,247.0	1,175,739.0	442,441.0	312,369
2015	2,875,856.0	806,361.0	1,250,005.0	489,817.0	329,673
2016	3,054,470.0	848,292.0	1,318,877.0	536,595.0	350,706

Source: Department of statistics retrieved from <http://www.gso.gov.vn/default.aspx?tabid=715>

## Appendix 02:

### GDP and value added at the price in 2016 after allocating tax according to economic sectors

(Unit: billion VND)

Year	Total	State- owned	Private- owned	FDI
2010	3,180,952.9	1,074,232.6	1,457,220.8	649,499.5
2011	3,379,453.7	1,124,370.6	1,575,191.3	679,891.8
2012	3,556,785.9	1,165,586.5	1,686,301.6	704,897.8
2013	3,749,630.5	1,210,035.0	1,815,227.1	724,368.4
2014	3,973,994.7	1,269,277.3	1,914,518.5	790,198.9
2015	4,239,429.9	1,351,749.5	2,036,333.3	851,347.1
2016	4,502,732.9	1,442,106.2	2,130,088.6	930,538.1

# **SUSTAINABLE GROWTH RATE OF SOME LISTED CONSTRUCTION COMPANIES IN VIETNAM**

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**Abstract:** *Sustainable growth rate is the maximum growth rate that a business can achieve while maintaining its capital structure. When the growth rate of the enterprise is higher than the sustainable growth rate due to the change in capital structure, the increase in debt is too high, the enterprise may face liquidity difficulties. However, the fact that the business achieves growth below the sustainable rate leads to the stagnation of the businesses. The article goes into calculating the sustainable growth rate and applies this method in determining the sustainable growth rate in 2019, 2020 and 2021 for 50 construction enterprises in Vietnam. Then, the article will compare the difference in sustainable growth rate and parameters that make up the sustainable growth rate of enterprises (Dividend Payout, Marginal Revenue, Asset Turnover and Financial Leverage) in 2020 compared to 2019 and 2021 compared to 2020. Research results show that the rate of sustainable growth and the rate of retained earnings of the enterprises in the sample fluctuate erratically from year to year and the difference in financial indicators over the years is not statistically significant. The article makes some comments and implies solutions for the enterprises in the sample.*

**Keywords:** *Sustainable growth rate, retained earnings ratio, profit margin, asset turnover, financial leverage.*

## **1. INTRODUCTION**

The formula for calculating the sustainable growth rate, given by Higgins (1997) allows managers to determine the maximum growth rate of a business by considering financial and economic indicators in business results. He believes that it is possible to base on sustainable growth to see the maximum development ability that a business can achieve while maintaining a certain financial structure in the long term. Besides, calculating and analyzing the sustainable growth rate also facilitate the regulatory agencies to stimulate the sustainable growth of a particular industry by issuing appropriate policies.

Construction enterprises make a great contribution to the economy because they create an infrastructure foundation for economic development in general. However, there have not been many studies on the sustainable development of enterprises in this sector in Vietnam market.

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This article will present calculations of sustainable growth rates in 2019, 2020 and 2021 of 50 listed construction companies in Vietnam. The main objective of this paper is to determine the sustainable growth rate of the construction industry in the period of 2019-2021, thereby making judgments and suggesting solutions for enterprises in the industry in next periods.

The following hypotheses are tested in the paper.

- Hypothesis 1: There is no significant difference in sustainable growth of listed construction companies through 2019 and 2020.

- Hypothesis 2: There is no significant difference in sustainable growth of listed construction firms through 2020 and 2021

The rest of the paper has the following contents: Section 2 presents an overview of the literature related to sustainable growth rates. Section 3 provides information about the database used to calculate sustainable growth rates, as well as the research methodology. Experimental results are presented in Section 4. The final part concludes the paper.

## **2. LITERATURE REVIEW**

Higgins (1977) attempted to answer the question of what is the maximum growth rate a firm can achieve. Higgins (1981) also examined the impact of inflation on sustained growth, considering that an increase in sales could be the result of an increase in the size of a product or an increase in the price of a product.

McFaddin and Clouse (1993) conducted research on companies in the US oil and gas industries, he developed a model that evaluates the interdependence of financial objectives, operational efficiency and sustainable growth rate. McFaddin and Clouse's study covers the period from 1972 to 1989 and compares the results of the new model with the actual growth rates as well as with the Higgins sustainable growth rate model. Research results have shown that McFaddin and Clouse's model is a better tool to assess sustainable growth rates and to guide policies to stimulate growth in the oil and gas industries.

The study by Clouse and McFaddin (1994), which focused on the US gas industry from 1970 to 1990, attempted to find a relationship between real growth rates and sustained growth rate. The paper's conclusion is that the US gas company's ability to sustainably grow has been reflected through future stock issues, operational improvements, and changes in financial goals. They also conclude that the sustainable growth model can be considered an effective tool in financial planning and business policy to address the problem of stimulating growth in the US gas industry.

Platt et al. (1995) proposed a formula to calculate sustainable growth rates for financially challenged firms, presenting a tool to assess the asset turnover of firms in financial difficulty and a means of controlling its actual growth rate. Platt's formula describes how much growth a company with limited or no access to financial markets can achieve.

Amouzesh et al (2019), investigated the relationship between the deviation of real growth rates from sustained growth rates and return on assets, price-to-value books, current ratio and quick ratio using data of 54 companies listed on the Iranian financial market.

Huang Xiyuan and Uhang Jingui (2015) determined the sustainable financial growth rates of the companies listed on the Stock Market and identified the factors that most influence the sustainable growth rates. steady. The results of their study clearly show that profitability is the most influential factor for sustainable growth.

MM Fonseka et al (2020), compared the Higgins model with the Van Horne model to determine which model is more suitable for determining sustainable growth rates. They found that profitable businesses had higher sustained growth rates based on Higgins' model than sustainable growth rates determined by applying Van Horne's model. On the other hand, in their study, they also determined that in highly leveraged firms, Van Horne's model gives a higher sustained growth rate than Higgins' model. However, the authors conclude that the difference between the models is not significant and that both models tested are equally suitable for use by managers and researchers.

### 3. DATA AND METHODS

**\*Database:** The author selects 50 construction companies whose stocks are traded on HOSE, HNX and UPCOME stock markets.

The data was collected from public website : vietstock.vn and cafef.vn where all the stamped reports are confirmed and made public for the investors and researchers.

**\*The following formula is used to determine the sustainable growth rate (SGR):**

$$\begin{aligned} SGR &= \text{Retention Rate} \times \text{Return on Equity} \\ &= \text{Retention Rate} \times \text{Profit on Sales} \times \text{Sales on Assets} \times (1 + \text{Debts/Equity}) \\ &= (1 - \text{Dividend Payout Ratio}) \times (\text{Profit Margin}) \times (\text{Asset Turnover}) \times (1 + \text{Lev}) \end{aligned}$$

**Where:**

- $\text{Retention Rate} = \text{Retained Earning} / \text{Net Profit} = (1 - \text{Dividends} / \text{Net Profit})$
- $\text{Dividend Payout Ratio (DPR)} = \text{Dividends} / \text{Net Profit}$
- $\text{Profit Margin (ROS)} = \text{Profit on Sales} = \text{Net Profit} / \text{Sales}$
- $\text{Asset Turnover (SOA)} = \text{Sales on Assets} = \text{Sales} / \text{Assets}$
- $\text{Leverage (Lev)} = \text{Debts} / \text{Equity}$

**\* Research method:**

This paper uses the T Test - Paired Sample to test Hypothesis 1 in order to determine the statistically significant difference that can occur between the sustainable growth rate of enterprises in 2019 and 2020.

The T Test - Paired Sample is also used to test Hypothesis 2 to determine the possible statistically significant difference in the sustainable growth of businesses in construction industry in 2020 and 2021

All calculations are done in Microsoft Excel 2010 and SPSS.



## 4. RESEARCH RESULTS

### 4.1. Overview of sustainable growth rate and financial ratios of listed construction companies in Vietnam

The average value of SGR in 2020 is much greater than the average value of SGR in 2019 (since SGR 1018 is negative), and the average value of SGR in 2021, albeit positive, has declined compared to 2020. The average ROS decreased in 2019 and 2020, but substantially jumped in 2021, according to the data. Over the course of three years, ROA and Lev have a lot in common. Because a negative retained earnings ratio indicates that corporations have spent too much of the previous year's income on dividends, DPR might display the most evident difference.

Specific description of tested variables is shown in the following table:

**Table 1. Paired Samples Statistics 2019-2020**

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	SGR.2019	-8.29%	50	69.31%	9.70%
	SGR.2020	4.62%	50	46.58%	6.52%
Pair 2	ROS.2019	8.26%	50	24.50%	3.43%
	ROS.2020	6.41%	50	17.17%	2.40%
Pair 3	SOA.2019	57.60%	50	30.67%	4.29%
	SOA.2020	65.16%	50	40.60%	5.69%
Pair 4	1+Lev.2019	442.53%	50	190.67%	26.70%
	1+Lev.2020	426.56%	50	173.64%	24.31%
Pair 5	1-DPR.2019	-20.62%	50	157.03%	22.63%
	1-DPR.2020	-2.30%	50	238.94%	33.46%

**Table 2. Paired Samples Statistics 2020-2021**

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	SGR.2020	4.62%	50	46.58%	6.52%
	SGR.2021	3.17%	50	10.35%	1.45%
Pair 2	ROS.2020	6.41%	50	17.17%	2.40%
	ROS.2021	10.35%	50	26.05%	3.65%
Pair 3	SOA.2020	65.16%	50	40.60%	5.69%
	SOA.2021	58.76%	50	37.83%	5.30%
Pair 4	1+Lev.2020	426.56%	50	173.64%	24.31%
	1+Lev.2021	427.09%	50	196.56%	27.52%
Pair 5	1-DPR.2020	-2.30%	50	28.94%	33.46%
	1-DPR.2021	50.91%	50	50.70%	7.24%

### 4.2. Testing the difference of financial coefficients over the years

The following tables can be used to determine the relevance of financial ratios:

**Table 3. Paired Samples Correlations**

		N	Correlation	Sig.
Pair 1	SGR.2019 & SGR.2020	50	.076	.598
Pair 2	ROS.2019 & ROS.2020	50	.525	.000
Pair 3	SOA.2019 & SOA.2020	50	.590	.000
Pair 4	1+Lev.2019 & 1+Lev.2020	50	.790	.000
Pair 5	1-DPR.2019 & 1-DPR.2020	50	-.015	.919

The changes in ROS, SOA, and LEV of businesses in 2019 and 2020 are statistically significant, implying that the changes in these three financial indicators are quite comparable over two years.

**Bảng 4. Paired Samples Correlations**

		N	Correlation	Sig.
Pair 1	SGR.2020 & SGR.2021	50	.032	.825
Pair 2	ROS.2020 & ROS.2021	50	.718	.000
Pair 3	SOA.2020 & SOA.2021	50	.668	.000
Pair 4	1+Lev.2020 & 1+Lev.2021	50	.701	.000
Pair 5	1-DPR.2020 & 1-DPR.2021	50	.101	.481

The value of Sig. 0.005 indicates that the data are correlated. ROS, SOA, and LEV of firms in two years 2021 and 2020 have a statistically significant association with each other, comparable to the data pair of 2020 and 2019, implying that the change of these three financial indicators will be quite similar over the following two years. As can be observed, when a particular firm has a high ROS ratio in 2019, the ratio of the year's profit to revenue of the enterprises in the sample is connected across the three years of the sample. Its ratio is relatively greater than other firms in 2020 and 2021 than other enterprises. The same would be said for a company's revenue-to-total-assets ratio and financial leverage.

However, the sustainable growth rate and the retained profit ratio have no relationship, indicating that the distribution of firms' sustainable growth rates is very variable over time. SGR drops sharply in 2020 for a company with a good ratio in 2019, but it can recoup in 2021. Similarly, several of the companies in the sample reveal that their retained profits rate is quite varying. This is one of the primary reasons why enterprise SGR ratios are also unstable.

**Table 5. Paired Samples Test**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	SGR.2020 - SGR.2021	1.46%	47.39%	6.64%	-11.87%	14.78%	0.219	50	0.827
Pair 2	ROS.2020 - ROS.2021	-3.94%	18.20%	2.55%	-9.06%	1.18%	-1.547	50	0.128
Pair 3	SOA.2020 - SOA.2021	6.40%	32.06%	4.49%	-2.62%	15.42%	1.426	50	0.160

Pair 4	1+Lev.2020 - 1+Lev.2021	-0.53%	144.65%	20.25%	-41.21%	40.16%	-0.026	50	0.979
Pair 5	1-DPR.2020 - 1-DPR.2021	-54.20%	239.32%	33.50%	-121.50%	13.11%	-1.617	50	0.112

**Table 6. Paired Samples Test**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	SGR.2019 - SGR.2020	-12.91%	80.53%	11.28%	-35.56%	9.74%	-1.145	50	0.258
Pair 2	ROS.2019 - ROS.2020	1.85%	21.29%	2.98%	-4.14%	7.83%	0.62	50	0.538
Pair 3	SOA.2019 - SOA.2020	-7.56%	33.46%	4.68%	-16.97%	1.85%	-1.614	50	0.113
Pair 4	1+Lev.2019 - 1+Lev.2020	15.97%	119.05%	16.67%	-17.52%	49.45%	0.958	50	0.343
Pair 5	1-DPR.2019 - 1-DPR.2020	-203.33%	1618.24%	226.60%	-658.46%	250.81%	-0.897	50	0.374

If Sig. (2-tailed) < 0.05, the values have no difference. Here, however, all test pairs have a statistically significant difference.. That indicates that the change in businesses in the industry in 2020 and 2021 was noticeable enough to detect a statistically significant difference. In 2020 and 2020, the same thing happened with corporate financial metrics.

## 5. CONCLUSION AND CONCLUSION

In the three years 2019-2021, the sustainable growth rate of listed construction businesses has been fluctuating, implying that the enterprises as a whole are unable to maintain the sustainable growth rate. Because construction firms in general will have specific industry characteristics such as development time, exploitation and recovery time, this may be considered as a substantial disadvantage in terms of the financial status of the enterprises in the sample. When compared to other companies in the economy, capital is generally long-term, which implies that if firms maintain a sustainable growth coefficient throughout time, they will provide maximum advantages to shareholders. The volatility of the sustainable growth coefficient signals a particularly insecure era of development for businesses in the industry, which should not be the case in the long run.

Financial ratios such as financial leverage, profit margin, and asset turnover of businesses are associated with time, revealing debt and profitability as well as the efficiency with which businesses operate. In the sample, the fluctuations are rather equally distributed. This is explained by the fact that, while the amount or kind of production in the sample may differ (building of traffic works, construction of civil works, etc. ), the firms in general have a very comparable debt structure and performance over time. The most significant variation across businesses is in profit retention for

the next year, which corresponds to a very irregular allocation of earnings for dividends, leading the sustainable growth rate to swing unpredictably. To optimize long-term value for shareholders, companies should have a more consistent dividend distribution method and model, as well as emphasize greater retained earnings.

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## **RCEP AND THE RISK OF ERODING ASEAN'S TRADE PREFERENCES - POLICY IMPLICATIONS FOR VIETNAM**

**PhD. Phan Tien Nam<sup>1</sup>**

**Abstract:** *While the Regional Comprehensive Economic Partnership (RCEP) Agreement provides an opportunity to gain greater market access through one of the familiar key tools, the elimination of tariffs on imports between member countries, the agreement has the potential to have a disadvantageous effect on ASEAN's exports. Normally, the removal of tariffs measure is expected to increase export turnover but in the context of ASEAN, the concession of tariffs under the RCEP facilitation will likely erode ASEAN's trade preferences in a way that the RCEP could overlap with many other ASEAN free trade agreements (FTAs) such as those signed and implemented within ASEAN Free Trade Area (AFTA), ASEAN+1 FTAs and Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) are also signatories to RCEP.*

*Key words: RCEP, ASEAN+1, tariffs, trade preferences, erosion,...*

### **1. INTRODUCTION**

The RCEP was signed on 15 November 2020, when all ASEAN's 10 member countries and five of their free trade area (FTA) partners - Australia, China, Japan, the Republic of Korea, and New Zealand - agreed to work together under a single umbrella of economic cooperation. The formation of RCEP was regarded by many as path finder for ASEAN as not only did it establish ASEAN's centrality in leading the economic cooperation architecture in Asia and the Pacific, but also is a milestone achievement in regional economic integration, led by the Association of Southeast Asian Nations (ASEAN) over the last 30 years. Remembering that, since the initial ASEAN Free Trade Area agreement was signed in 1992, ASEAN has expanded its membership and undertaken a more comprehensive form of integration toward the creation of the ASEAN Economic Community (AEC) in 2015.

RCEP would help ASEAN to shape its centrality, bolstering its function as a hub in the wider trade architecture of Asia and the Pacific. As for the mega-regional Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), yet it has similar objectives to promote trade and investment in a mutually beneficial way and is applauded for its wider scope and depth, RCEP seems more accommodative in its ambition paying attention to the development differences of all member economies. RCEP will be rigorously evaluated to see whether it can resolve many of challenges with earlier multiple FTAs in the region and deliver on greater trade liberalization and

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economic cooperation. By taking into effect on the first of January 2022, RCEP gained recognition as a trade arrangement being an effort to revive international trade and economic development against the spread of the coronavirus disease (COVID-19) pandemic, highlighted the downside of globalization and interrupted supply chains.

The RCEP is often termed as a mega regional trade agreement (RTA). As of 2020, its member countries together accounted for about 31% (\$26.1 trillion) of global GDP and 29.7% (2.3 billion) of the total population. The countries together accounted for about 29% of global merchandise trade (\$10 trillion), showing its further potential under RCEP's trade liberalization and facilitation measures and its commitments on regulatory coherence. When implemented, it is estimated that RCEP would increase members' income by 0.6%, adding \$245 billion to regional income by 2030 and about 2.8 million jobs to regional employment (Park, Petri, and Plummer, 2021).

However, ASEAN signed six free trade agreements with external partners, including Australia-New Zealand; the People's Republic of China (PRC or China); Hong Kong (China); India; Japan; and the Republic of Korea before the RCEP. The significance of the RCEP in global trade blurs a perception of how it differs from other trade agreements, i.e., above mentioned ASEAN+1 FTAs or bilateral FTAs amongst RCEP members... Furthermore, the RCEP introduced several new features in the agreement, such as differential tariff concessions, co-equal sharing and a single regional rule of origin, and a transition from the positive list to the negative list in services liberalization, which create new dynamics in the implementation and potential impact of the agreement in the region. Accordingly, the emergence of RCEP will overlap with numerous existing ASEAN FTAs, leading to question whether there is space for further tariff reductions under RCEP; and whether those tariff line cutting will have any impact on ASEAN trade. Reminding that tariff barriers for intra-ASEAN trade today have been already small on average, producing only limited welfare gains from a wide-range removal under RCEP or even an erosion of trade preference in adverse.

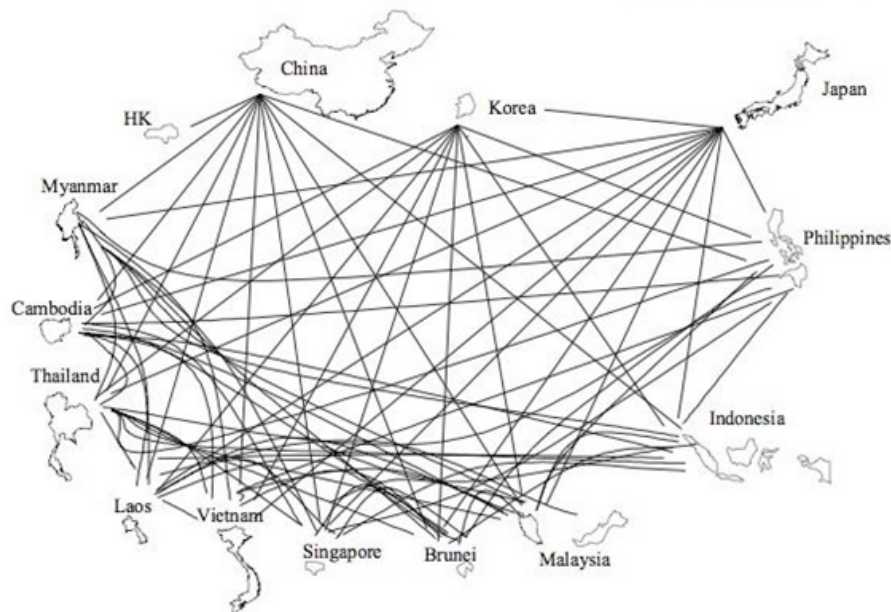
## **2. LITERATURE REVIEW**

Recent study on the impact of RCEP conducted by the Economic Research Institute for ASEAN and East Asia (ERIA) (2022) has assessed various elements of the agreement and potential implications for economic integration in the region. With regards to a comparison between the RCEP and other FTAs and evaluating the member-specific characteristics that determine the scale effects of RTAs, the chapter 3 finds that the RCEP will generate significantly larger gains compared with the CPTPP. The chapter 3 of this study also reveals that the RCEP will generate greater gains than the CPTPP, regardless of the model adopted and its specifications. In consideration of the sequence of implementing the RTAs - the CPTPP followed by the RCEP - the study finds that the former will generate greater gains for dual members, but marginal gains for RCEP-only members.

According to Sithanonxay Suvannaphakdy (2021), accruing gains from tariff reduction in RCEP seem unlikely have much for ASEAN countries since their exporters face lower demand for their goods under the 15-nation RCEP, as three giant ASEAN dialogue partners - China, Japan, and the Republic of Korea - are supposed to intensify trade flows among them. After the formation of RCEP, ASEAN's preferential access to the markets of its dialogue partners will be reduced because RCEP will set the same threshold of tariff reductions on imports among its partners.

China, Japan, and the Republic of Korea will have preferential access to each other's markets in addition to ASEAN.

For trade effects of RCEP, Nicita (2021) computed trade creation and trade diversion effects, the import demand and export supply elasticities using the OLS model. As a result, at the country level, the largest beneficiary of RCEP tariff concession is Japan, largely because of trade diversion effects. In numbers, Japan's exports are estimated to rise by about USD 20 billion, an increase equivalent to about 5.5% relative to Japan's exports to RCEP members in 2019. Substantial positive effects are also found for the exports of other economies including Australia, China, the Republic of Korea, and New Zealand. On the other hand, RCEP tariff concessions result in lower exports for Cambodia, Indonesia, Philippines, and Viet Nam. The reason for this is the negative trade diversion effects is that some of the exports of these economies are expected to be diverted to the advantage of other RCEP members because they obtained relatively higher tariff concessions or consequence of the tariff liberalization.



**Figure 1: Noodle bowl of FTAs pattern in East Asia**

*Source: Crook, W. and Gordon, J. (2017).*

Such preferential trade deals as RCEP might either lead to trade benefits offered from one country to others or create a “noodle bowl” effect to either East Asia and/or ASEAN where has a variety of FTAs in the region, especially Vietnam, was concerned by Crook, W. and Gordon, J. (2017) and ADB (2022). Knowing that the noodle bowl effect is a phenomenon wherein the diversity of trade agreements between nations and regions makes for a confusing, complicated framework, and ends in raising costs, and negating the benefits of these trade deals.

### 3. METHODOLOGY

A qualitative approach is applied, considering, and reviewing issues that discover tariff concessions of the RCEP and its overlapping to other ASEAN+1 FTAs, focusing on the trade and ROO (rule of origin) aspects. Also, a comprehensive assessment and comparative analysis of the

RCEP with the ASEAN+1 FTA framework and partially the CPTPP are considered for articulating potential trade diversion impacts. In doing so, this paper aims to identify any erosion of ASEAN's trade preferences because RCEP will coincide with multiple regional agreements and recognize an attempt of that deal to resolve the "noodle bowl" effect of the collection of FTAs that proliferated in the region over decades. Finally, the study ends with a mix of Vietnam's exposure to trade diversion and recommendations and suggests road maps in favor of RCEP perspective.

#### **4. RESEARCH DISCUSSION**

Based on an analysis of the legal text in RCEP, comparing it with that of the CPTPP, relevant agreements of the World Trade Organization (WTO), and ASEAN+1 FTAs, the RCEP can be regarded as a complete consolidation of East Asian RTAs encompassing 15 countries and covering several new features, such as differential tariff concession co-sharing and the regional/diagonal cumulation of rules of origin (ROO), which bring benefits to all signatories. RCEP was formed to mitigate challenges faced by businesses across multiple FTAs by containing various issues of market access, regulatory coherence across trade in goods and services, investment, and other cross-sectoral issues such as intellectual property rights, competition policy, government procurement, electronic commerce, support for small and medium sized enterprises (SMEs), and others.

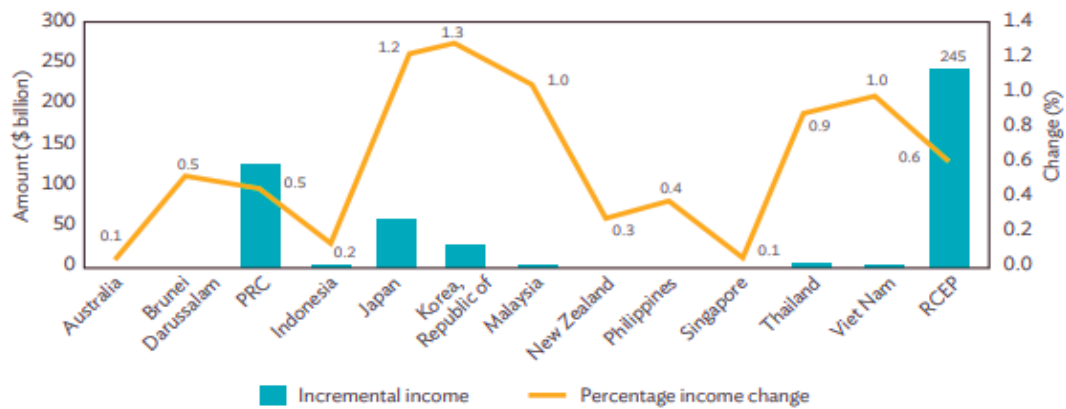
RCEP relies on a combined agenda of implementation and built-in provisions to achieve greater trade liberalization (known as the *ASEAN Way*, meaning a way of making decisions among ASEAN countries) rather than firm commitments adopted at the start and contained in the original text, as in the CPTPP. As such, RCEP needs a while to prove its value added to firms and investors relative to the existing network of FTAs that will continue to be in place and may further develop.

##### **4.1. Provision on Trade in Goods**

Market access for trade in goods (i.e., preferential tariffs) is the traditional form of any trade liberalization, and still covers a significant part of an FTA. RCEP is widely expected to bring significant benefits in this area by providing a common instrument that may, on one hand, gradually overlap with the panoply of existing FTAs and, on the other, provide a preferential platform for countries not previously engaged in an FTA (China and Japan). The absence of a most-favored nation (MFN) provision for the inclusion of the tariff liberalizations existing in other FTAs is a sign that RCEP will coexist with the ASEAN Trade in Goods Agreement (ATIGA) and ASEAN+1 FTAs and other bilateral FTAs. Many RCEP economies have presented differentiated offers as several ASEAN countries have made differentiated offers one-another to ASEAN members (Through ATIGA, Brunei Darussalam, Indonesia, Malaysia, the Philippines, Singapore, and Thailand have eliminated intra-ASEAN import duties on 99.65% of their tariff lines, other ASEAN countries have reduced their import duties to 0%–5% on 98.86% of their tariff lines).

The introduction of tariff differentials and related provisions have brought another layer of complexity to fulfilling tariff reductions. Additional insights from detailed analysis of tariff offers from Cambodia, Japan, and Viet Nam, taken as a sample, reveal long phasing-out periods for many tariff lines and complete exclusion from tariff liberalization for others, potentially affecting the value of such offers in terms of competitive market access.





**Figure 1: Incremental Income of Selected RCEP Member Economies by 2030**

Note: PRC = People’s Republic of China, RCEP = Regional Comprehensive Economic Partnership.

Source: Park, Petri, and Plummer (2021).

**4.2. Rules of Origin**

Rules of origin (ROO) and related administrative procedures are another keystone of preferential market access. Given the existing complexity and overlapping of ROO in ASEAN FTAs, RCEP has been greeted as a game changer, thanks to the possibility to (i) cumulate inputs within the entire RCEP region to qualify as a RCEP originating product, and (ii) to bring under a single FTA the thousands of product-specific rules of origin (PSROs) scattered across in various ASEAN FTAs.



**Figure 2: Product-specific rules of origin under RCEP.**

Source: The ADB Regional Cooperation and Integration Center (2022).

Amongst others, the RCEP sets out a detailed set of *rules of origin* (ROO) that applies to market participants who want to qualify their goods as so-called *originating goods* (OG) for RCEP purposes. The purpose of such agreements on ROO is to allow producers and traders to tag their products as OG, which are then deemed as coming from one of the treaty’s member states. This label is the ticket to preferential treatment regarding tariffs and customs procedures upon their export to other member states.

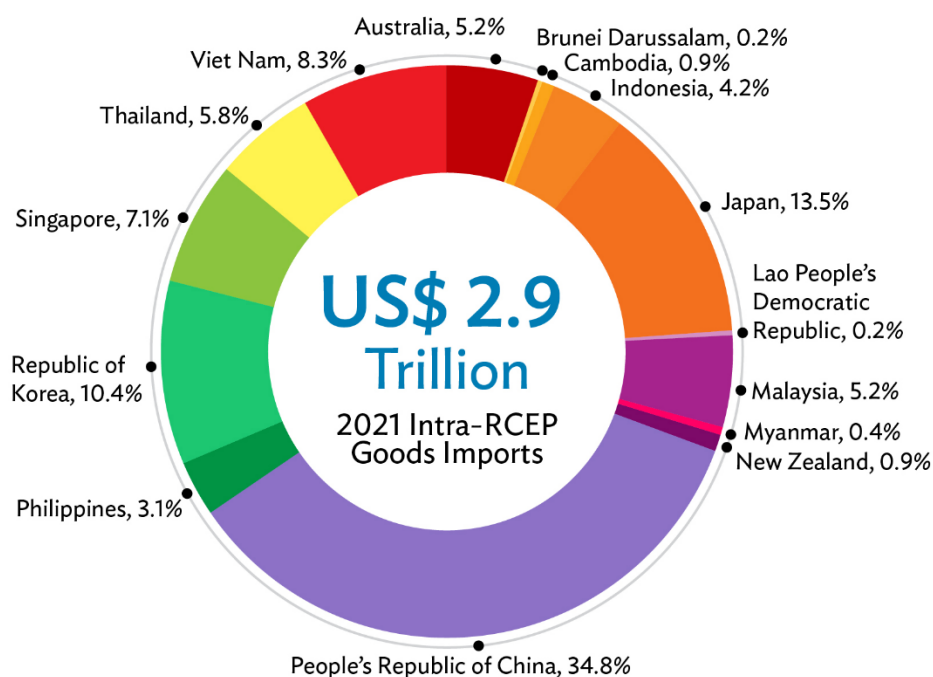
One major advantage for claiming preferential treatment under the RCEP is the *cumulation rule*. It allows OGs from one member to be used as material or component in the production of a

new product in another member without changing its OG status in the second member country/state. This enables manufacturers to divide up resources amongst the member economies and expand their value and supply chains across national borders without financial disadvantages.

Although any agreement takes time to have succeeded and is yet to completely match the expectations, a firm or beneficiary would use the FTA that is providing the best combination in tariff offer and ROO. Indeed, the kind of cumulation provided under RCEP is limited to cumulation of inputs originating in other RCEP countries but not to working or processing carried out in other RCEP countries and subject to the application of tariff differentials. In simple words, a product manufactured in Vietnam using inputs from China and exported to Japan may be considered a product of China instead of a Vietnamese product with the consequent application of a less generous tariff schedule unless the provisions for tariff differentials are met. Specially, Vietnam's goods will be regarded for equally preferential tariffs and simplified procedures under the RCEP Agreement.

### 4.3. Trade integration among RCEP members

RCEP is the most ambitious application of a rules-based trading system among economies in Asia and the Pacific. In 2021, merchandise trade among RCEP members was close to US\$ 2.9 trillion, or about 13 percent of global trade value in goods. RCEP membership includes some of the largest and most advanced economies in the world alongside several lesser-developed economies. China's merchandise trade with RCEP members was in the first order of about 34.8% while Japan and Republic of Korea rank the second and third with 13.5% and 10.4%, respectively. On the other hand, countries such as Laos, Myanmar and Brunei Darussalam contribute only a minimal fraction of the intra-RCEP trade (Figure 3).



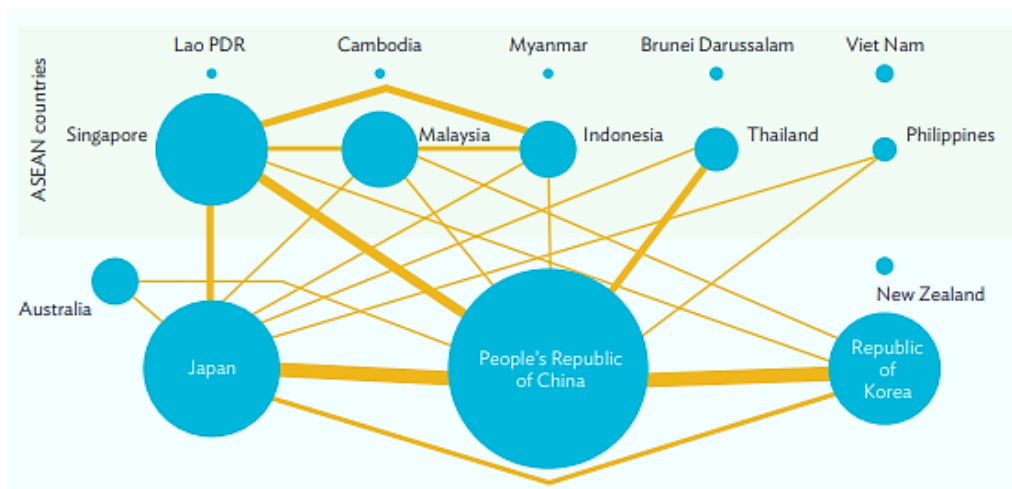
**Figure 3: 2021 Intra-RCEP Goods Import**

Source: The ADB Regional Cooperation and Integration Center (2022).

While ASEAN countries have existing ASEAN + 1 FTAs with five non-ASEAN member states (namely, Australia, China, Japan, New Zealand, and South Korea), all of which preceded the RCEP and not all the non-ASEAN member states have existing FTA with one another. Banga, Gallagher, and Sharma (2021) assessed the trade impact of RCEP using a partial equilibrium model. The results of the simulations showed that tariff liberalization under RCEP would cause the existing balance of trade of ASEAN to deteriorate relative to other RCEP countries by 6% a year, while the balance would improve for some of the non-ASEAN countries in RCEP. According to this study, the maximum balance of trade gains will go to Japan, followed by New Zealand. Post-RCEP or as this trade deal goes into effect after a while, trade balances will get worse for most ASEAN countries. The results indicate import volumes from China to increase for ASEAN countries, except for Laos and Vietnam. However, Japan and the Republic of Korea are the main sources of increases in China’s imports. Moreover, RCEP marks the establishment of free trade for the first time between China, Japan, and Republic of Korea. The successful signing of the RCEP sets a foundation for and is wished to further accelerate the ongoing trilateral FTA between these three nations, which is pending completion despite years of compromise due to historical and diplomatic reasons.

For instance, with no RCEP agreement in place, Japanese parts needed to manufacture the laser are subject to an MFN duty of 8% when imported into the Republic of Korea. A duty of 2.4% is applied when the finished laser is exported to the PRC, if the rules of origin (ROO) under the China - Korea FTA are met. If ROO requirement is not satisfied, an MFN tariff of 6% will be paid. In contrast, with full implementation of RCEP commitments, no duties will be collected when ROO and related procedures are complied with. Most significantly, given RCEP diagonal cumulation, inputs from Japan will be considered as originating in RCEP, making it easier for Korean manufacturers to comply with the rule of origin when exporting the final goods to China.

Eventually, in the context of global value chains, inputs are crossing borders several times, magnifying the costs of protection. Therefore, the benefits from a reduction or elimination of tariff and non-tariff barriers, coordinated among FTA member countries, become much larger for global value chains (GVCs) than for conventional trade. The prospective benefits of value-chain linkages are especially considerable in the RCEP region.



**Figure 4: Value Chain Connections within RCEP Economies.**

*Source: UNCTAD (2020).*

According to UNCTAD (2020), China, Japan, the Republic of Korea, and a few ASEAN countries are today key hubs (in Figure 4), smaller economies are expected to increasingly integrate into intra regional value chains because of RCEP implementation. Clearly, RCEP presents many opportunities for GVCs, but at the same time many issues may block the progress of GVC-related development, unlikely benefitting all equitably. China and Japan may overwhelmingly earn the benefits compared with ASEAN at least in terms of GVC development while ASEAN cannot retain the same level of centrality when the region expands to include five large non-ASEAN members. Excepting Australia and New Zealand, who do not emerge significantly as beneficiary countries. As for Republic of Korea, a lesser extent than China and Japan can be made.

#### **4.4. Tariff Differentials Complexity**

Tariff differentials have crucial implications for the administration of rules of origin and cumulation provisions during the phasing-down period. In fact, if a firm wishes to use the favorable cumulation provisions under RCEP, this may turn the clock back relative to existing bilateral or plurilateral FTAs. Since duties may be applicable under RCEP, while they were completely abolished under the previous FTAs presented in Table 1 coupled with rules on the application of tariff differentials creates a costly layer of complexity in using RCEP and in calculating what could be its incremental value compared with existing FTAs.

Crivelli and Inama (2022) points out a rational profit-maximizing firm uses the FTA that is providing the best combination in terms of tariff offer and rules of origin. Hence, if the preferential margin is better under a competing FTA with favorable rules of origin, there might be no incentive to use RCEP and its cumulation provisions. Furthermore, the kind of cumulation provided under RCEP is limited to cumulation of inputs originating in other RCEP countries (diagonal cumulation), but not to working or processing completed in other RCEP countries and subject to the application of tariff differentials.

#### **4.4. Trade Liberalization Overlapping**

A big challenge for RCEP is to live up to the expectation of being an effective newcomer in the Asia trade scene, bringing motivation to trade liberalization and many other issues evolving in Asia and the Pacific. In harmonizing the dissimilar economic and market conditions in the developed nations (especially those who have ratified the CPTPP) and the comparatively less developed nations (especially some of the ASEAN countries), the RCEP offers an upgrade from the existing ASEAN +1 agreements by addressing new emerging topics such as intellectual property and government procurement, even though the requirements set out under these topics generally fall short of reaching the gold standards set by the CPTPP. The RCEP implies its members' willingness to further improve their competitiveness by opening up trade and expand their trade partnership despite all differences, in the spirit of free and open trade in the midst of evolving protectionism.

**Table 1: Current FTAs among RCEP Members**

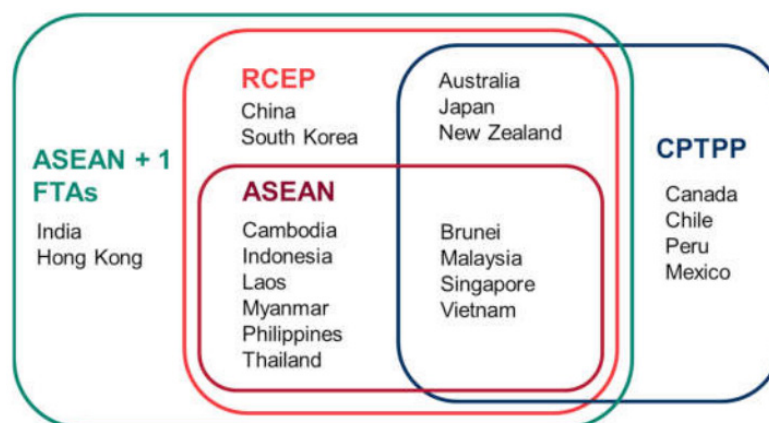
Economies/ Regions ASEAN		RCEP (2022)					
		Australia	PRC	Japan	New Zealand	Republic of Korea	
RCEP (2022)	ASEAN	ATIGA (2010)	AANZFTA (2010) Singapore (2003) SADEA (2020) Thailand (2005) Malaysia (2013) CPTPP (2018) Indonesia (2020)	ASEAN (2005) Thailand (2003) Singapore (2009) Cambodia (2022)	ASEAN (2008) Singapore (2002) Brunei Darussalam (2008) Indonesia (2008) Malaysia (2006) Thailand (2007) Philippines (2008) Viet Nam (2009) CPTPP (2018)	AANZFTA 2010 Thailand (2005) Malaysia (2010) CPTPP (2018) Singapore (2001) TPSEP/P4 (2006) DEPA (2021)	ASEAN (2007) Singapore (2006) Viet Nam (2015)
	Australia			Bilateral (2015)	Bilateral (2015) CPTPP (2018)	CER (1983) CPTPP (2018) AANZFTA (2010) PACER Plus (2020)	Bilateral (2014)
	PRC				No FTA	Bilateral (2008)	Bilateral (2015)
	Japan					CPTPP (2018)	No FTA
	New Zealand						Bilateral (2015)
	Republic of Korea						

Note: AANZFTA = ASEAN-Australia-New Zealand Free Trade Area; ASEAN = Association of Southeast Asian Nations; ATIGA = ASEAN Trade in Goods Agreement; CER = closer economic relations; CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership; DEPA = Digital Economy Partnership Agreement; FTA = free trade agreement; NZ = New Zealand; PACER = Pacific Agreement on Closer Economic Relations; PRC = People’s Republic of China; RCEP = Regional Comprehensive Economic Partnership; SADEA = Singapore-Australia Digital Economy Agreement; TPSEP/P4 = Trans-Pacific Strategic Economic Partnership Agreement.

Source: ADB (2022).

In fact, the RCEP overlaps with the two other major plurilateral agreements in the region - the ASEAN Free Trade Area and the CPTPP - resulting in four different groups of countries: (i) RCEP

members sharing membership in all three FTAs (Brunei Darussalam, Malaysia, Singapore, Viet Nam); (ii) members of both RCEP and ASEAN FTA, but not of CPTPP (Cambodia, Indonesia, Lao People's Democratic Republic, Myanmar, Philippines, Thailand); (iii) members of both RCEP and CPTPP, but not ASEAN FTA (Australia, Japan, New Zealand); and (iv) China and the Republic of Korea, which joined RCEP, but are not members of ASEAN FTA or CPTPP (Figure 5). Moreover, the existing network of FTAs in Asia and the Pacific is not restricted to the above-mentioned plurilateral agreements. A persistent trend of new negotiated FTAs at the bilateral level is now adding complexity to the noodle bowl of overlapping FTAs in the region. The low RTA tariff rates may explain why the five ASEAN+1 FTAs have not successfully created bilateral trade between ASEAN and dialogue partners. Over the last 20 years (2000-2020), all six dialogue partners have increased their respective trade share with ASEAN, even as a recent decreasing trend of Australia's trade share with ASEAN and an insignificant increase in Japan's trade share with ASEAN have been reported. On the ASEAN side, its trade share with both Korea and China has been steadily growing, but that with Japan has been decreasing continuously.



**Figure 5: RCEP Members and Other Regional Trade Agreements**

Note: ASEAN = ASEAN Free Trade Agreement, CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership, RCEP = Regional Comprehensive Economic Partnership.

Source: ADB (2022).

As shown in Table 2 below, existing ASEAN FTAs have not yet achieved 100 percent tariff eliminations on imports of FTA partners. ASEAN countries have made substantial progress in tariff reductions, but the degree of tariff eliminations (zero tariffs) varies across ASEAN countries. For promoting intra-ASEAN trade, ASEAN established AFTA in 1992 to eliminate tariffs on imports among its members. However, AFTA was then replaced by the ASEAN Trade in Goods Agreement (ATIGA) in 2010. Under AFTA, member countries identified sensitive sectors in which they did not fully eliminate tariffs, especially for rice. The more trade is restricted by the sensitive sectors, the smaller are the economic benefits from tariff elimination under the AFTA. Exclusively in 2019, zero tariffs on imports among ASEAN-10 countries averaged at 98.6 per cent of total tariff lines (number of products), of whom the ASEAN-6 countries: Brunei, Indonesia, Malaysia, the Philippines, Singapore, and Thailand - eliminated 99.3 per cent of total tariff lines. This was 1.6 percentage points greater than that of the ASEAN-4 countries (Cambodia, Laos, Myanmar, and Vietnam) with the record of tariff eliminations at 97.7 per cent of total tariff lines.

**Table 2: Comparison of Tariff Concession Rates, ASEAN+1 FTAs and the RCEP**

*Unit: (%)*

ASEAN	AANZFTA	ACFTA	AICECA	AJCEP	AKFTA	Average Excluding AICECA	RCEP
Brunei Darussalam	99	98	85	98	99	99	98
Cambodia	89	90	88	85	91	89	87
Indonesia	93	92	49	91	91	92	91
Lao PDR	92	97	80	86	90	91	86
Malaysia	97	93	80	94	92	94	90
Myanmar	88	94	77	85	92	90	86
Philippines	95	92	81	97	90	94	91
Singapore	100	100	100	100	100	100	100
Thailand	99	93	78	96	95	96	90
Viet Nam	95	92	79	94	89	93	89
Average	95	94	80	93	93	94	91
<b>Dialogue Partners</b>							
Australia	100					100	98
China		95				95	89
India			79				
Japan		92				92	88
Korea					90	90	88
New Zealand	100					100	92
Average	100	95	79	92	90	95	91
Average as a whole	96	94	80	93	93	94	91

AANZFTA = ASEAN-Australia-New Zealand Free Trade Agreement, ACFTA = ASEAN-China Comprehensive Economic Cooperation Agreement, AICECA = ASEAN-India Comprehensive Economic Cooperation Agreement, AJCEP = ASEAN-Japan Comprehensive Economic Partnership, AKFTA = ASEAN-Korea Comprehensive Economic Cooperation Agreement, ASEAN = Association of Southeast Asian Nations, RCEP = Regional Comprehensive Economic Partnership.

*Source: ERIA (2022).*

To foster the growth of extra-ASEAN trade, prior to RCEP, ASEAN countries have formed regional FTAs with their dialogue partners with different commitments on tariff reductions with each of their FTA partners. On average, ASEAN committed to eliminate 94.9 per cent and 92.9 per cent of total tariff lines under the AKFTA and AJCEP, respectively. For each ASEAN+1 FTA as shown in Table 2, commitments of tariff eliminations also vary across ASEAN countries. Under the AJCEP, for instance, Singapore, Brunei, and the Philippines committed to eliminate 100%, 97.7% and 97.4 % of total tariff lines, respectively. These levels are higher than those made by Laos, Cambodia, and Myanmar, which have committed to eliminate 86.9%, 85.7%, and 85.2% of total tariff lines, respectively.

Despite the expectation of significant gains from ASEAN+1 FTAs initiated with its six dialogue partners, the East Asian RTAs' expansionary evolution from the AFTA to the five ASEAN+1 FTAs, however, could not generate a significantly strong trade creation effect because of the additional cost imposed by complicated ROO of overlapping RTAs (Regional Trade Agreement). To overcome the ineffectiveness of the ASEAN+1 FTAs, the ASEAN+6 countries (India then left the agreement afterwards) agreed to launch the region wide RCEP by upgrading and consolidating existing provisions of the five ASEAN+1 FTAs.

After the formation of RCEP, ASEAN's preferential access to the markets of its dialogue partners will be reduced because RCEP will set the same threshold of tariff reductions on imports among its partners. China, Japan, and the Republic of Korea will have preferential access to each other's markets in addition to ASEAN. This is particularly important for Japan, which has not yet formed any FTA with China and the Republic of Korea. In 2020, the top-ranked export destination of Japan was China, followed by the United States and the Republic of Korea with a share of 22% (141 billion USD), 18.5% (118 billion USD), 6.96% (44 billion USD) respectively. The RCEP will reduce or even eliminate tariffs among the three Northeast Asian economies. In this scenario, exporters in ASEAN are likely to face lower demand for their goods in these markets as these three dialogue partners are likely to intensify trade flows among them.

While the ASEAN+1 FTAs are aligned and reflects similar principles in dealing with trade and business in general, there still exist notable differences in the rules and requirements in each FTA since they were all negotiated separately. For many years, businesses have had to navigate through the challenges of differing interpretation of the requirements under each of the ASEAN+1 FTAs, depending on where the importer and exporter are located. The RCEP offers a solution to this and promises a single consolidated rulebook that applies to businesses in all fifteen member economies.

With regards to RCEP's tariff concession, rates (91% on average) are lower than those of four ASEAN+1 FTAs (94% on average), excluding the AICECA (Table 2). The RCEP, which positively lists products to be liberalized, eliminates 86%-100% of tariffs within 20 years and covers only a narrow part of services. The CPTPP, which negatively lists products to be liberalized, eliminates 95% - 100% of tariffs and opens around 160 services industries. For manufacturing products, the RCEP eliminates 92% of tariffs, which is lower than the complete elimination of tariffs under the CPTPP. Also, the time length of the tariff liberalization schedules is different between RCEP and the CPTPP. Generally, the maximum period granted to reduce preferential tariff rates to zero level is longer in RCEP than in the CPTPP. While in the CPTPP, the range is from 4 to 21 years, RCEP members' longest liberalization periods of time between 15 and 21 years. Moreover, unlike the common tariff concession rule applied to all CPTPP members, the tariff reduction schedule of the RCEP is relatively complex, allowing different preferential treatment by a pair of member countries (Carlos Kuriyama, Sylwyn C. Calizo Jr. and Jason Carlo O. Carranceja, 2022).

As mentioned above, one of the key benefits of the RCEP is that it consolidates the existing ASEAN + 1 FTAs into one single easy-to-navigate rulebook. Companies that currently qualify for preferential tariff treatment under one existing ASEAN +1 FTA seeking to utilize RCEP moving forward are well advised to study the RCEP ROO to ensure that their goods can qualify as originating



goods under the RCEP. Table 3 below notes the differences in the ROO between the RCEP and the other key ASEAN and ASEAN + 1 FTAs. There are actually a few notable provisions distinct from existing ASEAN+1 FTAs that are the consistent application of the ROO for all products that will simplify the origin verification process, increasing the RCEP's utilization rate.

**Table 3: RCEP compared to the ASEAN + 1 FTAs from an ROO perspective**

Comparison	Calculation of regional value content	Minimal operations and processes	Indirect materials / neutral elements
RCEP vs. ASEAN Trade in Goods Agreement (ATIGA)	N/A	In addition to the minimal operations and processes listed under the ATIGA, the RCEP includes eight more categories of minimal operations that do not confer origin	ATIGA rules disregard neutral elements, while the RCEP treats an indirect material (a good used in the production, testing, or inspection of another good but not physically incorporated into that other good) as an originating material without regard to where it is produced
RCEP vs. ASEAN-China FTA (ACFTA)	In addition to the Indirect/Build-Down formula provided for under the ACFTA, the RCEP also provides for a Direct/Buildup formula for RVC calculation	In addition to the minimal operations and processes listed under the ACFTA, the RCEP includes eight more categories of minimal operations and processes that do not confer origin	The ACFTA rules disregard neutral elements, while the RCEP treats an indirect material as an originating material without regard to where it is produced
RCEP vs. ASEAN-Japan FTA (AJCEP)	In addition to the Indirect/Build-Down formula provided for under the AJCEP, the RCEP also provides for a Direct/BuildUp formula for RVC calculation	The RCEP rules contain more categories of minimal operations and processes than those set out under the AJCEP	N/A
RCEP vs. ASEAN-Korea FTA (AKFTA)	N/A	The AKFTA rules contain more categories of minimal operations and processes than those included by the RCEP rules	The AKFTA rules disregard neutral elements, while the RCEP treats an indirect material as an originating material without regard to where it is produced
RCEP vs. ASEAN-AustraliaNew Zealand ZFTA (AANZFTA)	N/A	The RCEP rules contain more categories of minimal operations and processes than those included by the AANZFTA rules	N/A

Source: Petterd, A., et al. (2020).

As estimated by Chung, I. Park, and S. Park (2022), a full cumulation scheme adopted in the CPTPP will reduce trade costs more than the diagonal cumulation adopted in the RCEP. Meanwhile, the introduction of ROO self-certification is another less-restrictive application of regime-wide ROO. Additionally, rules for securing intellectual property rights, including the digital copyright rule, are strong, and non-tariff barriers will be gradually unified to activate intraregional trade.

The importance of RCEP as an export destination for ASEAN countries is limited because of ASEAN countries will face a decline in the competitive advantage. ASEAN exporters will see the benefits of these FTAs diminished by the expansion of incentives to include RCEP supplements. The elimination of larger tariff lines under the RCEP would lead to a wider erosion of preferences and thus reduce exports within ASEAN.

#### 4.5. Trade Diversion and Erosion

Nicita (2021) provides the results of RCEP tariff concessions on trade flows for members and selected non-member economies. Overall, RCEP tariff concessions are basis to increase trade within RCEP by about US\$ 40 billion, equivalent to almost 2 per cent. Most of effects would be driven by trade diversion (about US\$ 25 billion) away from non-member countries. Trade creation due to lower tariffs contributes about US\$ 17 billion.

**Table 4: Export changes due to RCEP tariff concessions**

RCEP Members	As percentage of exports to RCEP (%)	Overall effects (billion USD)	Trade diversion (billion USD)	Trade creation (billion USD)
Australia	1.9	4.1	2.8	1.3
Brunei	0.6	0.0	0.0	0.0
Cambodia	-3.9	-0.3	-0.4	0.0
China	1.8	11.2	6.9	4.3
Indonesia	-0.3	-0.3	-0.8	0.4
Japan	5.5	20.2	15.7	4.5
Lao	2.7	0.1	0.0	0.1
Myanmar	1.2	0.1	0.0	0.1
Malaysia	0.1	0.2	-0.3	0.6
New Zealand	4.5	1.1	0.8	0.3
Philippines	-0.1	-0.1	-0.2	0.2
Republic of Korea	2.0	6.7	4.4	2.3
Singapore	0.2	0.2	-0.3	0.5
Thailand	0.0	0.0	-1.1	1.1
Viet Nam	-1.2	-1.5	-2.3	0.8
<b>Average</b>	<b>1.8</b>	<b>41.8</b>	<b>25.2</b>	<b>16.6</b>

*Source: Nicita (2021).*

ERIA (2022) also analyzed the top five export destinations of the 10 ASEAN countries using 2018 export data of the World Bank's International Trade Center shows that ASEAN countries will have diverse levels of export losses. Countries with relatively large export losses include

Brunei, Indonesia, Laos, Myanmar, Malaysia, Singapore and Thailand. In contrast, Cambodia, the Philippines, and Vietnam are likely to face less losses in terms of exports because these countries export at a higher revenue to the U.S., which is not a party to the RCEP. This outcome makes the importance of RCEP as an export destination for ASEAN countries limited.

Importantly, the overall negative effects for some of the RCEP members do not imply that they would have been better off by excluding themselves from the RCEP agreement, as trade diversion effects would have accrued anyway. Even without considering the other benefits of the RCEP agreement besides tariff concessions, the trade creation effects associated with participation in RCEP softens the negative trade diversion effects.

Two scenarios to demonstrate how trade erosion reduces ASEAN's exports by using ASEAN-China, ASEAN-Japan, and ASEAN-Korea FTAs as examples. Prior to the formation of the RCEP, only ASEAN countries had preferential access to the Chinese, Japanese and South Korean markets under FTAs. Exporters from ASEAN enjoy the low preferential tax rates granted by these three countries, while exporters from the three countries also enjoy low preferential tax rates issued by ASEAN countries. Meanwhile, goods exported from Japan to China or vice versa face the most favored-nation tariff rate (MFN), which is generally higher than the preferential tax rate. However, China remains Japan's main export market. After the RCEP is formed, ASEAN's preferential access to the market by dialogue partners will decrease as the RCEP will set the same threshold for cutting tariffs on imports between partners. In addition to ASEAN, China, Japan, and South Korea will have the opportunity to access their own markets

#### **4.6. Case of Vietnam**

Vietnam economic growth is estimated to rebound in 2022 when the Government has steadily reopened the economy from early October 2021, switching its circumstance from a "Zero-Covid" to "Living with Covid" together with the implementation of quickly efficient vaccination operations. The manufacturing, trade flows, and domestic mobility has bounced back very quickly and based on these movements. It is estimated that Vietnam may recover and reach 6.5% growth in 2022. According to a statistic of the VCCI's Centre for WTO and International Trade, Vietnam earned an export turnover of \$132.32 billion from RCEP markets in 2021, rising up 16% on-year, and spent \$238.5 billion on imports from these economies - meaning a \$106.18 billion trade deficit.

In addition to helping Vietnam amplify its trade with the deal's member countries, and unlike almost other multilateral FTAs that embrace Vietnam's membership, the RCEP will especially help Vietnam attract more investment from markets that are its top ten foreign investors including South Korea, Singapore, Japan, China, Thailand, and Malaysia. Though facing the biggest challenge of goods from other countries that can be imported into Vietnam at lower tariff rates, even if other RCEP's competitors have no cost of goods sale adjusted, their goods will then still be more competitive in price when being launched to Vietnam's market and eventually, causes a huge trade deficit to the trade balance.

**Table 5: RCEP and US import-export markets for Vietnam (2019 - 2021)***Unit: USD bn.*

No	Markets	2019	2020		2021		
		Export	Import	Export	Import	Export	Import
1	<b>U.S</b>	61.4	14.4	76.4	13.7	96.3	15.3
2	<b>EU</b>	41.5	14.9	34.8	14.5	45.8	12.0
3	<b>RCEP</b>						
	China	41.4	75.5	48.5	83.9	56.0	109.9
	ASEAN	25.2	32.1	23.1	30.0	29.2	41.1
	South Korea (ROK)	19.7	46.9	18.7	48.5	22.0	56.2
	Japan	20.4	19.5	19.2	20.5	20.1	22.7
	Australia	3.49	4.46	3.62	4.68	4.5	7.9
	New Zealand	0.54	0.55	0.498	0.558	0.70	0.63

*Source: MOIT (2019, 2020, 2021).*

Table 5 illustrates an increasingly substantial number of deficit values in bilateral trade over years between Vietnam with South Korea, China, and the ASEAN while that with Japan appears to arise. For instance, besides massive loss to China being from a main input supply, the trade deficit with South Korea has grown particularly rapidly since 2015 after the Vietnam-Korea Free Trade Agreement (VKFTA) was signed and became effective. Another major challenge to Vietnam local enterprises is that RCEP could create a risk of trade diversion, which expands the competition with China. Joining the Vietnam-Japan Agreement (VJEP), Vietnam - Korea (VKFTA) and ASEAN+1 agreements has brought to Vietnam competitive advantages and preferences over China relating to exports to these markets. However, things may be changed with RCEP where China has more tariff incentives and concessions than before. RCEP facilitations and absolute comparatives possibly make Chinese products surpass trading inflow to above sites and therefore, will multiply competition with Vietnam and ASEAN. Meanwhile, almost products imported into Vietnam are used for production and then re-exported to member countries and the wider world or non-RCEP economies such as the U.S and EU - where they have been becoming largest export markets to Vietnam recently.

In giving way to these regional advantages, Vietnam has begun to transfer RCEP's implications into national regulations on 18 February 2022. To give effect to the treaty's agreements on unifying the ROO across the new trade block, the Vietnamese Minister of Industry and Trade (MOIT) signed and promulgated Circular No. 05/2022/TT-BCT dated 18/02/2022 on Rules of Origin of the RCEP (Circular No.5) which provides specific guidance on the RCEP related ROO in four Chapters and includes four appendices and will be effective from 4 April 2022. Chapter 1 of Circular No.5 outlines the general provisions, Chapter 2 defines the new rules to determine the origin of goods, Chapter 3 specifies the necessary certification and inspection of the origin of goods, and Chapter 4 provides implementing provisions to the Vietnamese authorities. These guidelines define the field's typical terms like OG, cumulation, de minimis, minimal operations and processes, direct consignment, operational certification procedures, for application by the responsible Vietnamese executive branch.

According to Circular No.5, OGs imported into Vietnam from RCEP member countries shall be considered for the preferential upon submission of an application or through self-certification issued by the exporter. Similarly, Circular 5 contains specific provisions on applicable tax differences for beneficiaries of the RCEP. Unifying definitions, specifications, requirements, formalities, and tax rates - thereby facilitating cross-border trade inside the free trade zone – is one of the core incentives of RCEP signatories

## **5. CONCLUSION AND RECOMMENDATIONS TO VIETNAM**

In short, tariff cuts under the RCEP have the potential to erode trade preferences within ASEAN because the RCEP appears in an environment with many overlapping FTAs. Erosion, in this context, confirms exporters in ASEAN are likely to face lower demand for their goods in markets offered by dialogue partners under ASEAN+1 FTAs. Given the absence of an FTA between Japan and its major trading partners, the RCEP is likely to enhance trade flows between dialogue partners rather than stimulate more exports from ASEAN. The main implication of the tariff reduction is that export-oriented enterprises in ASEAN will face tougher competition with competitors of bilateral and or multilateral partners to preserve their proper market shares

Unfavorable effect of tariff cuts considered here does not necessarily mean that there is no room for ASEAN to gain from RCEP. If RCEP achieves its objective of going well beyond these tariff reductions, it may be that potential export losses or trade diversion will be the least important implication. Addressing the issues such as non-tariff barriers, intellectual property rights and e-commerce, among others, will enhance competitiveness and stimulate innovation of ASEAN firms, the benefits of which are likely to outweigh potential export losses of tariff cuts.

Having unified ROOs under multilateral FTAs allows businesses and traders to optimize value chains and maximize their limits by capitalizing on preferential treatment for goods that originate inside the particular free trade zone. Taking the right location for the production, assembly and distribution of goods is, therefore, a core reflection of supply-chain efficiency and may depend on a number of factors (including primary consumer market, sourcing, factory location, etc.). Being able to leverage the advantages of regional OG labels has the potential to deliver commercial positives to all partakers along the supply chain. Manufacturing and exporting firms based in any of the fifteen member states of the RCEP should be familiar with the complexities of ROO under overlapping FTAs. One of the RCEP's core benefits thus lies in the consolidation of ASEAN + 1 rules into a single comprehensive document. Enterprises should determine that their goods qualify as OG under these new guidelines.

Thus, with the above analysis the economic benefits of joining the RCEP are obviously not much from Vietnam's perspective, because Vietnam already has been in ASEAN+1 FTAs which covers some of the same members. Such several export strengths as agroforestry and fishery products soon face difficulties in both comparatives and regulations of origin when the removal of trade barriers is undertaken. Meanwhile, the tariff concession under the agreement also increases the competitive pressure to domestic enterprises, especially those of being small in size and less power. It is important to understand the new conditions for preferential tariff treatment under the

RCEP's ROO. To maximize individual benefits from Vietnam's multiple regional FTAs, existing value creation chains, and logistics linkages should be revisited in light of the new rules.

To Vietnam, RCEP gains are probably more geo-political than economic. Joining the RCEP is a support effort of a united ASEAN and an expectation to develop an axis connecting Northeast Asia and Southeast Asia together. Also, Vietnam has chances to build up the country's image and international relations more than to lose when participating in many FTAs.

For these reasons, it is necessary for Vietnam to pay more attention to key export markets instead of worrying about losing within RCEP, and to support more small and medium-sized enterprises to build up their strength and as they need C/O facilitation, as well as proactively, gradually increase the in-source of domestic input materials.

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# ANALYSIS OF THE RELATIONSHIP BETWEEN WORLD OIL PRICES AND EXCHANGE RATES AFTER THE APPEARANCE OF COVID-19 WITH VAR MODEL

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**Abstract.** *This study analyzes the dynamic relationship between the VND/USD exchange rate and the WTI world crude oil price in the period after the appearance of the COVID-19 epidemic. Daily data from January 30, 2020 to January 23, 2022 were collected, forming a dataset of 565 observations for each variable. To look for evidence of a dynamic and stable relationship between these variables, the author uses a Vector Autoregressive model. The results show that, in the short run, each variable is highly affected by changes in its past value and values and that of other variables to varying degrees. In addition, no evidence has been found for the long-term relationship between the VND/USD exchange rate and the world crude oil price.*

**Key words:** *Vector Autoregression (VAR), Exchange rate, Vietnamese stock market, world crude oil.*

## 1. INTRODUCTION

The relation between oil price and USD rate has caught attention of many sectors in the economy. It has been shown that the oil price and the US dollar are always fluctuating hour by hour, day by day and are both valuable commodities that have a great influence on the global economy. Referring to one of the most important raw materials for most economies in the world, it is impossible not to mention crude oil. This is considered an important input for production. Therefore, when oil prices fluctuate, it will directly affect the world economy and the stability of many countries. This is also the reason why the Organization of the Petroleum Exporting Countries (OPEC) has such influence on various global forums. With an extremely important role in the economy, crude oil is speculated by many countries and organizations. The two most popular forms of crude oil investment are futures and options trading. This is also a commonly traded commodity on most exchange platforms, and, at the same time, fluctuations in crude oil prices are closely related to the exchange rate of the US dollar.

Crude oil prices are volatile seasonally and normally oil prices will rise before winter. As countries in the Northern Hemisphere need enough energy for the heating system in winter, the need for fuel reserves will be higher, thereby increasing spending on crude oil and crude oil products. Then, global demand for crude oil will be affected and oil prices will accordingly rise. Policies of international organizations may also affect oil prices, for example, OPEC approved the imposition of oil exploitation quotas on member countries in the event of plummeted oil prices in

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the world market. A joint decision to cut daily oil production by member countries could help to stem the decline in crude oil prices in the market.

2020 was a year that witnessed many fluctuations in the economy caused by the covid-19 pandemic. The beginning was the sharp drop in oil prices for a long time, making markets and economies unstable. In such a recession situation, production and business activities are shrinking, causing a sharp drop in demand for oil as a commodity (fuel). Meanwhile, despite cutting production, oil-producing countries still had to keep their production going, as they depend heavily on oil revenues. This causes oil prices to fall for a long period of time, even below zero at times. In the context of such sharp drop in oil prices, the US dollar (USD) was tending to move up. The price of WTI crude oil delivered in May fell below 0 USD/barrel for the first time in history in the trading session on April 20<sup>th</sup>, 2020, and closed at -37.63 USD/barrel. Since the beginning of data recording in 1983, this is the highest record decline in oil prices. This session also recorded an all-time low closing level. The decline in US oil prices led to a decrease in other oil prices such as Brent oil in the European, Middle East and Asian markets, but the decrease was not strong, still at 21-23 USD/barrel. Due to the impact of the record low dropping oil price, at the beginning of the trading session on April 21, 2020 (Vietnam time), the foreign currency rate fluctuated strongly on the foreign exchange market. The USD Index (DXY), which measures the volatility of the greenback with 6 major currencies (EUR, JPY, GBP, CAD, SEK, CHF) stood at 99.88 points, up 0.1% from the previous session's level. Meanwhile, the world gold price decreased slightly by about 2 USD/ounce compared to the previous session on April 20<sup>th</sup>, fluctuating around the threshold of 1,689 USD/ounce. The strong growth of the US dollar put pressure on crude oil prices, contributing to a deep drop in oil prices. However, the main reason is due to the Covid-19 pandemic which reduced the demand for oil, and the supply therefore exceeded demand. At the same time, oil storage places no longer had the capacity, making it difficult to speculate on oil reserves, which made investors raising their concerns when investing in this commodity.

In the study of the relationship between the exchange rate and world crude oil prices, foreign studies such as Baghestani& Toledo (2019) assert that the real exchange rate is an important indicator of competitiveness of a country in the world economy. In this study, the authors establish a forecasting framework to generate multi-period random walk predictions of the effective broad and narrow real exchange rates of the NAFTA countries (Canada, Mexico and the United States). The results show that the random walk prediction error for the period 2008–2016 is not correlated with changes in oil prices. Consistent with these results, the authors show that the change in oil prices accurately predicts the change in the direction of the real exchange rate for up to the next two (three) months for Canada (Mexico and the United States). Accurate directional predictions imply symmetric losses, which means that they are valid for users who assign similar losses (costs) to both incorrect upward and downward movements in the real exchange rate.

Jiang et al (2022) analyze the relationship between crude oil prices and exchange rates by studying their heterogeneous dependency structures within the quantum Granger causality framework for a sample of developed and emerging economies (namely the UK, Canada, Brazil, Russia, Mexico, Norway, India, Japan, South Africa, South Korea and the European Union). The results show that there is no clear causal relationship between the change in crude oil prices and the

real exchange rate for all countries other than Russia at the mean of the conditional distribution. In addition, changes in crude oil prices affect exchange rates in all countries except Norway and the EU, especially around the bottom end of the conditional distribution of exchange rates. This suggests that oil price changes affect the real exchange rate profitably when the real exchange rate appreciates or depreciates sharply. Furthermore, crude oil price volatility can be explained by exchange rates that only roll back for most oil importers when the crude oil market falls or rises. Conversely, the real exchange rate can permanently affect the price of crude oil for most oil importing countries, regardless of the state of the crude oil market.

Another study by Zhang & Qin (2022) analyzed the nonlinear interactions between international oil prices, Renminbi exchange rate and China's gold price, the authors built an Markov-Switching Vector Autoregressive (MS-VAR) Modelling containing the above three variables and conducting an empirical study with monthly data from July 2005 to December 2017. The results indicate that there is a significant momentum effect existing between the international oil price and the Renminbi exchange rate. China's gold price is mainly influenced by international factors, such as international oil prices, while the influence of the Renminbi exchange rate on China's gold price is limited. In addition, the dynamic interactions between the three variables vary under different modes and have a clearly asymmetric effect.

The domestic studies on the relationship between the exchange rate and the domestic world crude oil price remain few and not yet officially published. For example, the master's thesis by Le Van Hien (2017) examines the impact of oil price volatility on macro factors of the Vietnamese economy and the response of monetary policy. The paper uses a structured VAR model (SVAR) based on monthly data for the period 2001 – 2015. The EGARCH model is estimated to show the important asymmetric impact of oil price shocks on volatility on oil prices. The push-response function derived from the SVAR model shows that conditional volatility in oil prices reduces CPI and interest rates, increasing money supply, but has no obvious effect on industrial output and exchange rate. The paper also shows that the State Bank of Vietnam chose an expansionary monetary policy in response to oil price volatility. The results of variance analysis show that oil price volatility does not play an important role in explaining fluctuations in industrial output, but oil price volatility is a contributing factor to explain fluctuations in industrial output of the CPI.

Thus, it can be seen that the relationship between the exchange rate and the world crude oil price has been and continues to be studied. Therefore, this article explores the relationship between the exchange rate and the world crude oil price in a new context, after the appearance of the COVID-19 pandemic. The rest of the article is structured as follows: Section 2 presents the data and research methods, Section 3 presents the research results, and finally the Conclusion in Section 4.

## **2. RESEARCH DATA AND RESEARCH METHODS**

### **2.1. Research data**

The research has taken the market price of USD in Vietnam Dong, world oil price WTI and Vietnam stock market index VNI <https://vn.investing.com/> from Jan 30<sup>th</sup>, 2020, after the emergence of the COVID-19 pandemic in Vietnam to April 29<sup>th</sup>, 2022, including 565 observations. Research variables are denoted EX, OIL and VNI, respectively. The series of returns of the variables is calculated by the formula:

$$rEX_t = \ln\left(\frac{EX_t}{EX_{t-1}}\right)$$

$$rOIL_t = \ln\left(\frac{OIL_t}{OIL_{t-1}}\right)$$

$$rVNI_t = \ln\left(\frac{VNI_t}{VNI_{t-1}}\right)$$

After taking the series of returns of the variables, the number of observations is 564 observations.

## 2.2. Research method

Regarding the research method, in order to examine the relationship between VND/USD exchange rate, world crude oil price and Vietnam stock index, vector auto-regression model (Vector auto-regression - VAR) was used. In this model, all variables are considered endogenous and each endogenous variable is explained by its lagged or past values and the lagged values of all other endogenous variables included in the model. There are no exogenous variables in the model and thus, by avoiding imposing a priori limits on the model, VAR adds significantly to the flexibility of the model. VAR is often used for systematic forecasting of interrelated time series and to analyze the impact of random noise on a system of variables. The VAR approach eliminates the need for structural modeling by modeling every endogenous variable in the system as a function of the lagged values of all endogenous variables in the system.

The mathematical form of VAR is  $y_t = \beta_1 y_{t-1} + \beta_2 y_{t-2} + \dots + \beta_p y_{t-p} + \gamma x_t + \varepsilon_t$ , where  $y_t$  is  $k$  vectors of endogenous variables,  $x_t$  are vectors of exogenous variables,  $\beta_1, \beta_2, \dots, \beta_p$  and  $\gamma$  is the matrix of estimated coefficients, and  $\varepsilon_t$  are the innovation vectors that can be correlated simultaneously with each other but not with their own lagged values and not with all the variables on the right hand side of the regression function. Since only the lagged values of the endogenous variables appear on the right-hand side of each equation, there is no problem of simultaneity and the method of Ordinary Least Squares (OLS) is the preferred estimation technique.

## 3. EXPERIMENTAL RESULTS

Table 1 below presents descriptive statistical results of the studied variables.

**Table 1. Descriptive statistics of studied variables**

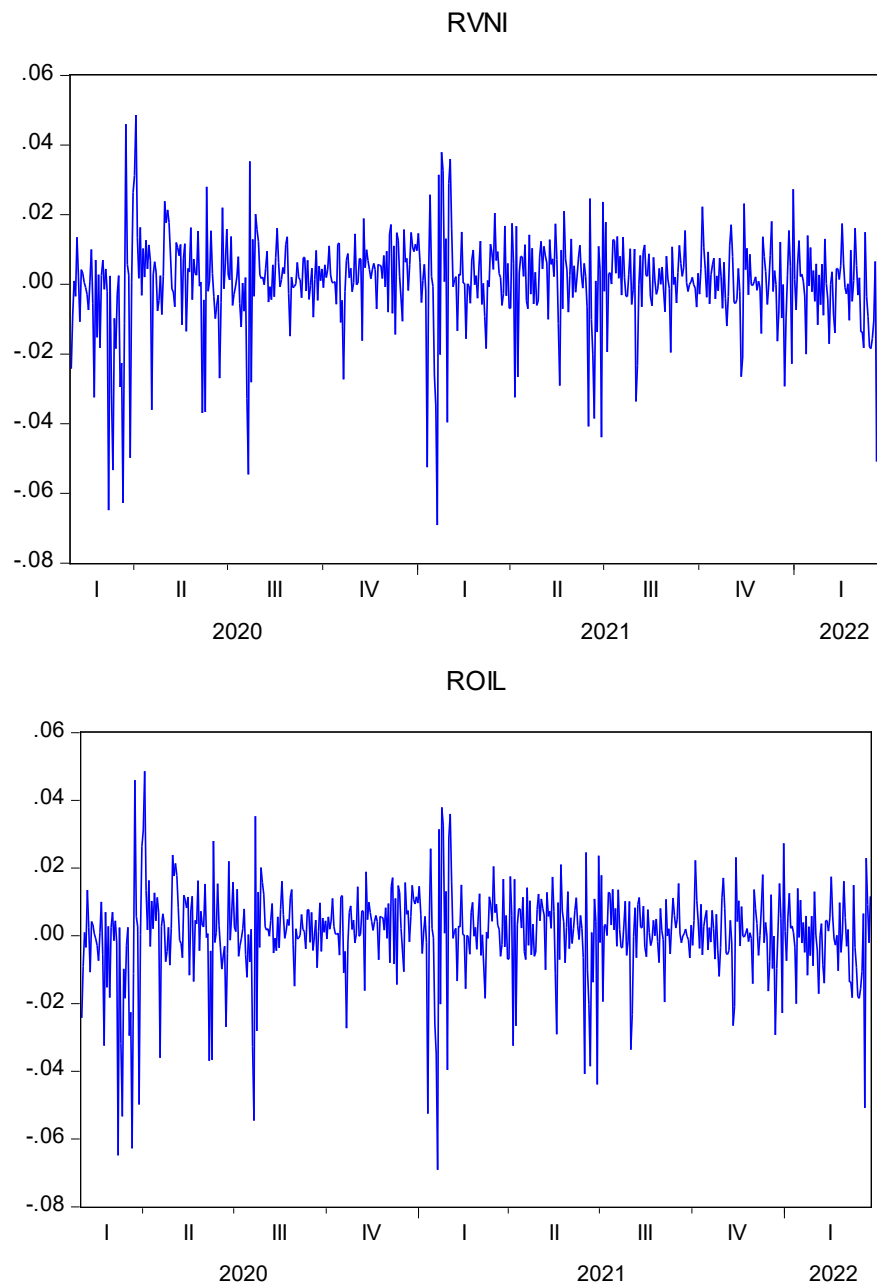
	rVNI	rOIL	rEX
Average	-1.69E-05	0.000627	0.000627
Median	0.000000	0.002070	0.002070
Maximum value	0.008288	0.048600	0.048600
value	-0.006523	-0.069076	-0.069076
Standard deviation	0.000995	0.013822	0.013822

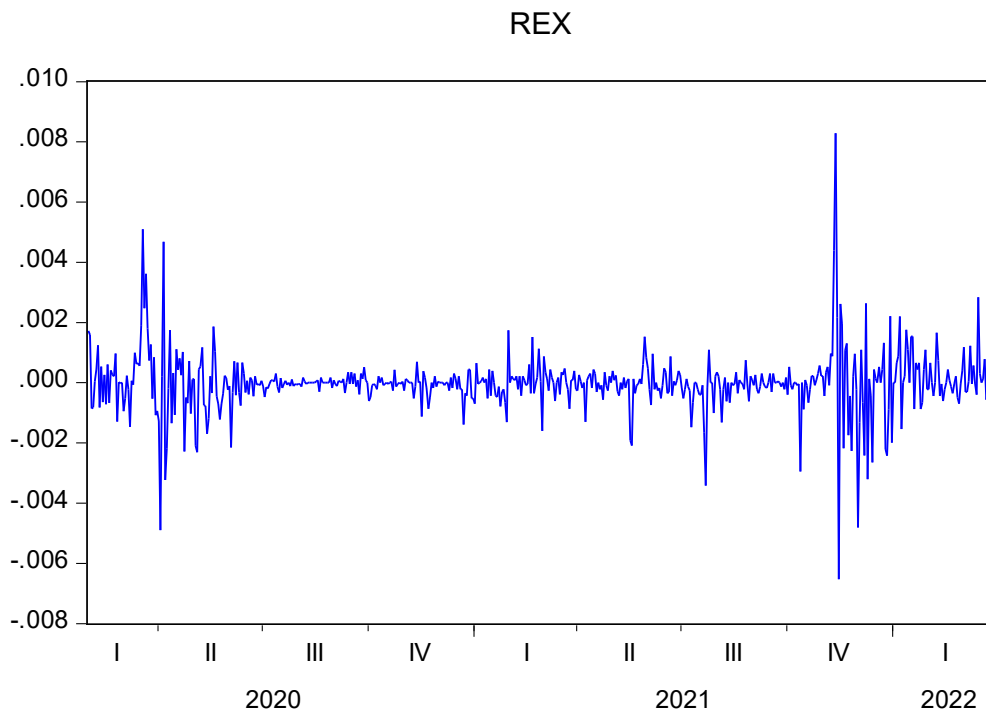
Asymmetry	0.565888	-1.254864	-1.254864
Coefficient	19.32175	7.706087	7.706087
Jarque-Bera	6290.489	668.4808	668.4808
Value	0.000000	0.000000	0.000000
Observations	564	564	564

Source: Synthesized by author

Statistical table showing basic statistical values of each yield series such as price mean, maximum, minimum, and standard deviation. The following graph of each variable visually shows the movement of each yield series during the research period.

**Figure 1: Graph depicting volatility of yield series**





Source: Drawn from collected data by author

In addition to providing a visual picture of the volatility of each yield series, Figure 1 also helps us forecast stationarity of yield series. It can be predicted that all yield series are stationary series. The results of testing for stationarity of time series are presented in Table 2 below:

**Table 2. Results of testing for stationarity of yield series**

Test function form	Series	Test value Augmented Dickey-Fuller
Has intercept	rVNI	-12.27*
	rOIL	-22.32*
	rEX	-12.27*
Has intercept and trend	rVNI	-12.26*
	rOIL	-22.30*
	rEX	-12.26*

Ghichú: \* denotes variables that are statistically significant at level 1%.

Source: Author

The test results in Table 2 confirm that all yield series are stationary series. Therefore, these yield series can be included in the VAR model estimate.

One of the important aspects of VAR modeling is choosing the optimal delay term. The traditional way to choose a delay is by iterating the VAR model by reducing the delay length from the large delay term to 0. In each of these models, the minimum value of the Akaike information criterion and the Schwarz criterion are used to select the optimal delay length (Gujarati, 2004). In this study, the following five criteria were used: Sequentially Modified LR Test Statistics (LR), Final

Predictive Error (FPE), Akaike Information Criterion (AIC), Schwarz Criterion (SC) and Hannan-Quinn Information Criteria (HQ). Similarly, the minimum of these 5 criteria indicates the optimal delay length. Table 3 shows the summary results of the selection criteria for the VAR delay order.

**Table 3. VAR delay order selection criteria**

Lag	LogL	LR	FPE	AIC	SC	HQ
0	4657.550	NA	1.83e-10	-16.74658	-16.73104*	-16.74051
1	4666.569	17.93926	1.80e-10	-16.76464	-16.71801	-16.74642*
2	4672.822	12.39400	1.78e-10	-16.77274	-16.69503	-16.74239
3	4678.495	11.20322	1.77e-10*	-16.77876*	-16.66996	-16.73626
4	4681.041	5.010740	1.78e-10	-16.77353	-16.63365	-16.71889
5	4685.052	7.862145	1.78e-10	-16.77357	-16.60260	-16.70679
6	4688.617	6.964409	1.78e-10	-16.77201	-16.56995	-16.69308
7	4693.669	9.830105*	1.78e-10	-16.77579	-16.54265	-16.68472
8	4696.503	5.494553	1.78e-10	-16.77159	-16.50737	-16.66839

Note: \* indicates the delay order selected according to the criteria

Source: Author

The first column on the left shows the model for which the delay length was selected using criteria LR, FPE, AIC, SC and HQ. The numbers are the minimum value in each criterion. Before choosing a lag length, one must consider that too short a lag length in the VAR may not capture the dynamic behavior of the variables (Chen and Patel, 1998). Table 3 presents the selection criteria for VAR delay order. Based on the results, the study will select seven lags accordingly.

From there, we can find the real relationship between the exchange rate and the world crude oil price by estimating the VAR model as shown in Table 4.

**Table 4: VAR model estimation results**

	REX	ROIL
REX(-1)	0.123619 (0.04350) [ 2.84173]	-0.476842 (0.62445) [-0.76362]
REX(-2)	-0.136344 (0.04355) [-3.13059]	-0.278650 (0.62518) [-0.44572]
REX(-3)	0.114712 (0.04391) [ 2.61265]	-0.334947 (0.63026) [-0.53144]
REX(-4)	0.098869 (0.04395) [ 2.24947]	-0.168916 (0.63092) [-0.26773]

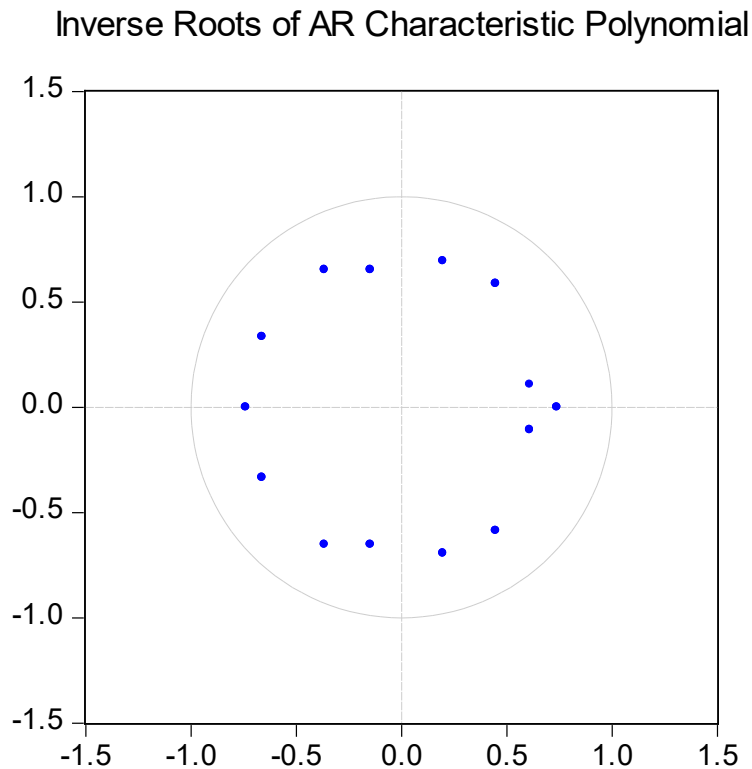
REX(-5)	-0.032391 (0.04382) [-0.73914]	-0.121880 (0.62907) [-0.19375]
REX(-6)	0.082000 (0.04332) [ 1.89298]	-0.040332 (0.62181) [-0.06486]
REX(-7)	-0.092793 (0.04276) [-2.17031]	0.886084 (0.61374) [ 1.44374]
ROIL(-1)	-0.007398 (0.00303) [-2.44218]	0.044172 (0.04349) [ 1.01578]
ROIL(-2)	-0.000513 (0.00305) [-0.16822]	0.071698 (0.04374) [ 1.63936]
ROIL(-3)	-0.000305 (0.00305) [-0.09996]	-0.045770 (0.04375) [-1.04607]
ROIL(-4)	0.000405 (0.00306) [ 0.13265]	-0.037644 (0.04387) [-0.85815]
ROIL(-5)	-0.006103 (0.00309) [-1.97317]	0.086529 (0.04440) [ 1.94900]
ROIL(-6)	-0.005316 (0.00310) [-1.71489]	0.031779 (0.04450) [ 0.71409]
ROIL(-7)	-0.001219 (0.00310) [-0.39341]	0.099630 (0.04448) [ 2.23981]
C	-5.81E-06 (4.1E-05) [-0.14206]	0.000505 (0.00059) [ 0.86025]

*Note: numbers in ( ) are standard errors, numbers in [ ] are t-statistics*

*Source: Author*

Impulse response and variance decomposition functions are performed to check the shock level for variables that bounce back to the system. Before performing these analyses, it is important to ensure that the VAR model is stable. We use the original AR Graph as shown in Figure 2.

**Figure 2: Inverse of the solutions of the characteristic polynomial AR**



*Source: Author*

In Figure 3, the model satisfies the stability condition, because there is no inverse of the solution which is outside the unit circle. Besides, residual serial is actually white noise thanks to VAR residual serial correlation LM Test, with results in Table 5.

**Table 5: Sequential serial correlation LM test of residuals in VAR model**

Lags	LM-Stat	Prob
1	5.180616	0.2693
2	5.164000	0.2709
3	6.530640	0.1629
4	3.795859	0.4343
5	8.836180	0.0653
6	2.990623	0.5594
7	6.752978	0.1495
8	6.081041	0.1932

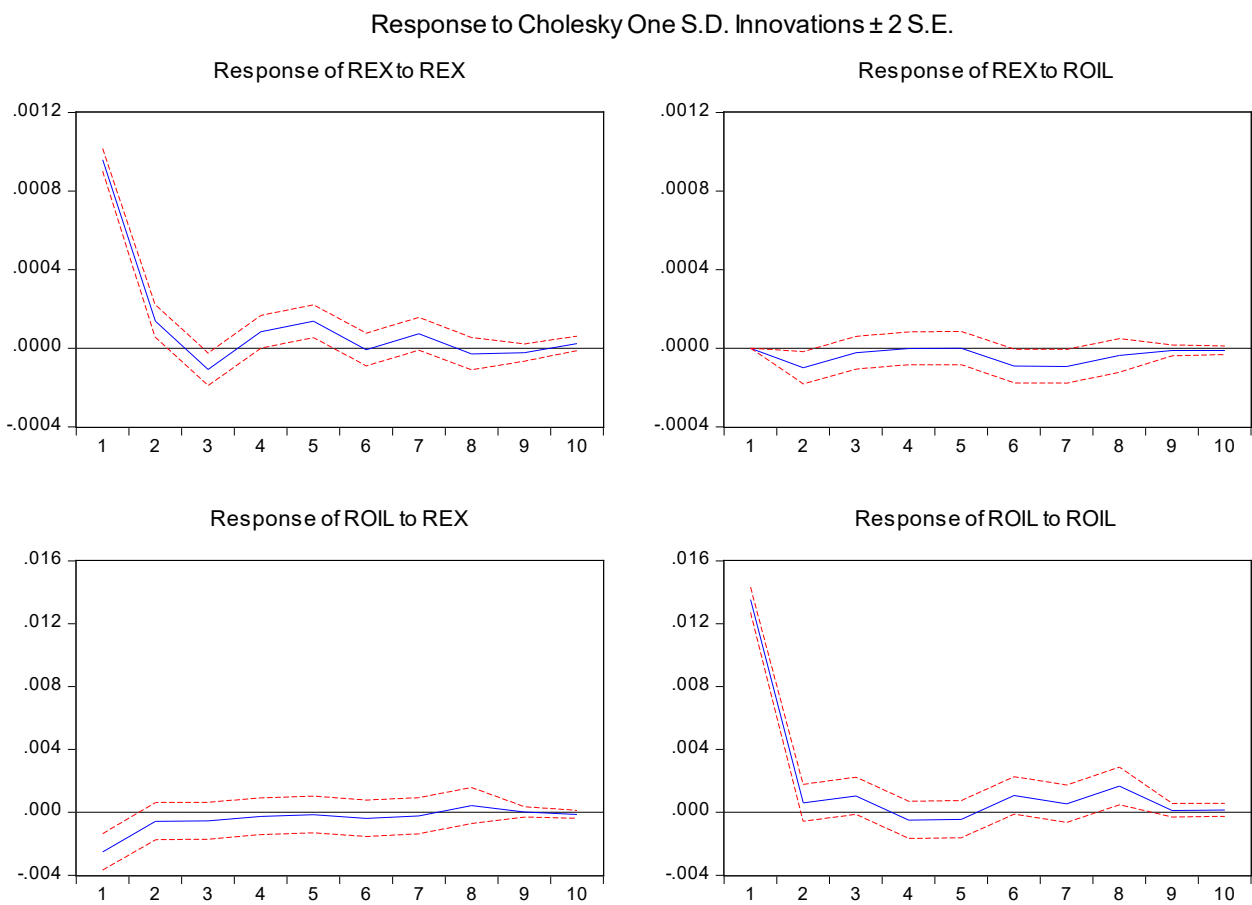
*Source: Author*



The results in Table 5 show that, at the 5% level of significance, the VAR model does not have the problem of serial correlation of residuals from order 1 to 8.

The impulse response function (IRF) represents the response of each variable with changes in each other variable. We can check the magnitude, direction, and length of time each variable is affected by a shock of one variable in the system, keeping all other variables constant. The impulse response functions are presented in Figure 3.

**Figure 3: Response to Cholesky One SD Innovation  $\pm 2$  SE**



*Source: Author*

It can be seen that each variable is immediately positively affected by itself on the first day, and that is the same effect. It is a common feature that all effects of each variable on itself and the others disappear after about 10 days. Oil price shocks have almost no effect on the exchange rate. However, exchange rate shocks have a negative effect on oil prices on day one. This makes sense since crude oil trade in the international market is determined by the exchange rates between national currencies. The magnitude of the response can be seen from the decomposition of variance in Table 6.

**Table 6: Analysis of Variance**

Variance Decomposition of REX:			
Period	S.E.	REX	ROIL
1	0.000959	100.0000	0.000000
2	0.000973	98.94300	1.056998
3	0.000980	98.89788	1.102118
4	0.000983	98.90551	1.094492
5	0.000993	98.92630	1.073697
6	0.000997	98.09258	1.907421
7	0.001004	97.25610	2.743900
8	0.001005	97.12455	2.875455
9	0.001005	97.11345	2.886546
10	0.001006	97.10253	2.897468

Variance Decomposition of ROIL:			
Period	S.E.	REX	ROIL
1	0.013759	3.342569	96.65743
2	0.013784	3.500521	96.49948
3	0.013834	3.626494	96.37351
4	0.013845	3.655141	96.34486
5	0.013853	3.662175	96.33783
6	0.013899	3.715756	96.28424
7	0.013912	3.735112	96.26489
8	0.014019	3.771571	96.22843
9	0.014019	3.771482	96.22852
10	0.014021	3.780363	96.21964

Cholesky Ordering: REX ROIL			
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*Source: Author*

Historical exchange rate variation is mainly explained by the exchange rate itself. The exchange rate within 1 week is also affected to a small extent by the world crude oil price but not much, less than 3%. Meanwhile, the change of world crude oil price is also mainly explained by the world crude oil price itself and partly influenced by the exchange rate at a higher level, above 3%.

To investigate the relationship between the exchange rate and the world crude oil price in the long run, the author conducts a co-integration test. The results are shown in Table 7.

**Table 7: Results of the Cointegration Test Johansen**

## Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.100339	107.5586	15.49471	0.0001
At most 1 *	0.083977	48.76888	3.841466	0.0000

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level

\* denotes rejection of the hypothesis at the 0.05 level

\*\*Mackinnon-Haug-Michelis (1999) p-values

## Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.100339	58.78968	14.26460	0.0000
At most 1 *	0.083977	48.76888	3.841466	0.0000

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level

\* denotes rejection of the hypothesis at the 0.05 level

\*\*Mackinnon-Haug-Michelis (1999) p-values

Source: Author

The Johansen co-integration test has not found a long-run relationship between the exchange rate and world crude oil prices.

#### 4. CONCLUSION

Research has found that exchange rates and world crude oil prices can explain each other's pricing processes. In the money market, exchange rates are often predicted based on the economic situation of a country. If the economy is strong and growing, their currency's exchange rate reflects that in a higher value. The relationship between currencies through an internationally traded commodity such as crude oil is of interest is understandable. This paper aims to establish and validate the dynamic relationship of exchange rate and world crude oil price. The paper uses date-time series data to explore the effects of fluctuations and their interrelationships. This paper has systematically demonstrated the dynamic relationship using level 7 VAR with a model to show the dynamic relationship.

It can be seen that the volatility of each variable is mostly explained by itself. Therefore, this study suggests some reasonable models to be tried to study each variable through its historical information such as AR, MA or ARIMA... This will be done by the author in the following studies.

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# THE DEVELOPMENT OF DIGITAL BANKING: EVIDENCE FROM VIETNAM

PhD. Ngo Duc Tien<sup>1</sup>

**Abstract:** *Thanks to the Fourth Industrial Revolution, along with the growth of the digital economy, digital banking has become an attractive business trend. Moreover, the covid-19 pandemic around the world over the past two years has boosted the digitalization of banking services. The development of digital banking is now becoming an attractive issue that will attract the concern of not only scholars but also bank managers as well as policy-makers. To study the development of digital banking, Vietnam, an emerging country with a young population having the significant digital appliance joy, will be a perfect case study. Besides, several commercial banks in Vietnam are in the race to complete their digital services to provide innovative digital banking services adding more value to their clients. This paper will provide a rationale for digital banking, including the definition, the maturity model, the pros and cons of digital banking, and suggest the public policies to manage the operation of digital banking in Vietnam.*

**Keywords:** *digital banking service, digitalization, digital bank, digital economy.*

## 1. INTRODUCTION

Digital banking has positioned itself as an unstoppable corporate trend. According to experts, the 4th Industrial Revolution, as well as the government's non-cash programs and policies, all affect the potential for digital banking. A large number of Vietnamese bankers agreed that digital banking is a great opportunity. The key question is how the banking system and government will prepare. In Vietnam, the concept of digital banking is still in its infancy, with only a few highly profitable large-scale models available. However, some beneficial lessons are emerging. There are numerous approaches to digital banking. There are four interwoven, mutually reinforcing characteristics that define leading banks: connectivity, automation, innovation, and decisioning. Connectivity relates to which banks can leverage fast-increasing social networks to develop loyal customers and market-disrupting solutions. Automation is a term that refers to the process of utilizing digitalization to reimagine operations to improve the customer experience and resource utilization. The term "innovation" refers to banks' ongoing efforts to reinvent themselves in the light of the banking industry's rapid pace of transformation. Decisioning is a term that refers to the practice of employing big data to make more accurate, timely, and precise judgments regarding customer choices and bank risk decisions.

Vietnam currently has over 97.4 million people with a young population structure, so the ability to access technology and the internet is high, and the percentage of the population using smartphones

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increases rapidly. Therefore, Vietnam is now a potential market for digital banking development at commercial banks. Digital banking requires significantly more than the delivery of banking services via digital devices. Consumer-adopted technology offers major benefits, such as greater capacity, enhanced data safety, and better privacy, which opens up new opportunities for banks.

## 2. LITERATURE REVIEW

### *Digital banking definition*

It is a challenge to understand the difference between “Digital banking” and other terms such as “mobile banking” and “online banking”. All of these involve some type of digital application. However, agreement on the definition of “digital banking” or even a “digital bank” has not been achieved properly. Digital banking has no universal definition, some different terms are given as follows:

*“Digital Banking - a new concept in the area of electronic banking, which aims to enrich standard online and mobile banking services by integrating digital technologies, for example, strategic analytics tools, social media interactions, innovative payment solutions, mobile technology, and a focus on user experience.”* (M.Murugeswarie, 2018).

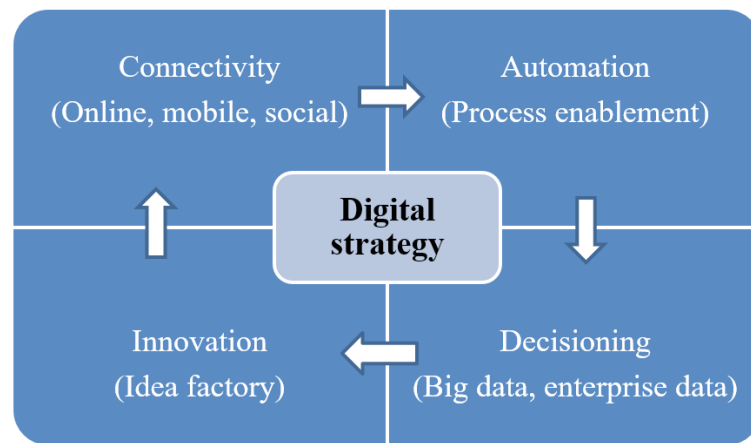
*“Embracing a fully digital strategy requires end-to-end modernization of a bank’s often outdated infrastructure. Equally important, it requires a transition from an account-based view of banking customers to one that knows them as individuals and enhances the customer experience with relevant, convenient, and personalized products and services.”* (Cognizant, 2014)

*“Digital Banking is the application of technology to ensure seamless end-to-end processing of banking transactions/operations; initiated by the client, ensuring maximum utility to the client in terms of availability, usefulness, and cost; to the bank in terms of reduced operating costs, zero errors and enhanced services.”*(Epstein, 2015).

However, digital banking’s definition, in general, should focus on improving service experience based on customer involvement and expectations, all of which may be collected in several data sources and aggregated into a large database. Overall, digital banking is a type of banking activity that is built on a digital core and maximizes usefulness for the bank and customer in terms of cost efficiency and benefit improvement.

### *Four elements of digital banking*

Connectivity, automation, innovation, and decisions are the four pillars of digital banking. Connectivity refers to the extent to which banks can leverage fast-increasing social networks to develop loyal customers and market-disrupting solutions. Automation is a term that refers to the process of leveraging digitalization to redesign operations to improve resource utilization and customer experience. The term “innovation” relates to how banks should pursue their self-reinvention. Decisioning is a term that refers to the practice of employing big data to make more accurate, timely, and precise judgments regarding client purchase options as well as bank risk decisions. Figure 1 offers a straightforward framework for banks to consider. True digital banking entails far more than the delivery of banking services via digital devices. Consumer-adopted technology possesses significant advantages, such as higher capacity, enhanced system security, and enforced customer privacy secure, which present new prospects for banks.



**Figure 1: Four elements of digital banking**

Source: McKinsey (2014)

### ***Digital banking positioning***

*Channels and offerings:* Digital banks need to strategically acquire a significant proposition to a particular segment in the market. A digital bank can offer some relatively simple products with competitive prices or a robust trading platform. Those products may focus on customer experience, offering an instinctive interface and real-time processing. In addition, a personalized Web experience can be offered for products recommendation, based on customers' browsing behavior, and searching history. Some banks may consider focusing on a mobile-centric dimension, where they can leverage cutting-edge platforms and digital technology to improve their service and offerings. Additionally, digital banks could build their websites to provide sophisticated content management and paperless real-time transactions.

*Digital banking archetypes:* There are three main archetypes of digital banking for banks to position themselves: Branch centric, product-focused; multi-channel customer-centric, and Self-directed digital-centric.

- *Branch-centric, product-focused archetype.* Traditional banks have maintained their typical banking value proposition of branch and product centrality. Their sales and service business are still branch-based, with direct channels employed in addition to and primarily for servicing. This model demonstrates the digital follower approach, as it is predicated on a larger consumer base across all categories and increasing price premiums.

- *Multi-channel and customer-centric archetype.* While this transitional model has a branch-centric approach, it also includes advanced web and mobile channels. The primary channels of servicing are still direct. This method generates value by increasing the market share of customers who have embraced technology without incurring price increases. Additionally, this method results in a higher rate of cross-selling and a greater percentage of account management services while maintaining a lower cost of service.

- *Self-directed and digital-centric archetype.* This is a low-cost but sophisticated service delivery model catered more toward self-directed customers. Direct channels are more innovative in terms of sales and require a minimal physical presence to get customers. This typology has

the lowest acquisition and service costs of the three. This is currently the most prevalent digital banking model.

### ***Digital banking multichannel managing***

The Internet and mobile gadgets have transformed the customer decision journey in the modern-day. The bank's consumer may initially become aware of a banking product via a mobile device or social media, then visit a branch for consultation on the product, to make transactions via a laptop. Banking services no longer communicate with a customer exclusively through a single channel. Thus, digital banking is not limited to the mobile channel, the development of a visually appealing application, or the establishment of a robust Internet-banking platform. Banks must handle multichannel properly in order to flourish in digital banking. Three metrics are used to evaluate a bank's multichannel management: Customer experience, branch management, and data usage.

*Customer experience:* To succeed in digital banking, banks must develop an unprecedented multichannel user experience. Numerous factors can influence the customer experience, which is intangible and influenced by awareness or sentiment. Historically, banks have concentrated their efforts on the functional aspects of the client experience, such as product design, online capabilities, and discount service charges. However, consumers are more motivated by intangible qualities like trust, service, and value these days. Banks must place a premium on their customers and the intangible aspects that affect them in order to deliver a really exceptional customer experience across channels. Banks must use a consistent platform to ensure customers' behaviors and preferences are carried over. Customer sales possibilities and service interactions are increasingly customized. The customer communicates with the bank one-on-one in real time, independent of the channel. A centralized digital banking platform ensures that functionality is consistent regardless of the customer's preferred device or mode of connectivity. These models can assist in establishing a consistent experience and instilling a sense of trust and loyalty in the customer toward the bank.

(i) *Branch management:* Consumers are leaving bank branches, although a large number of branches remain in the banking system. Particularly banks were built and expanded on the branch concept. To flourish in the digital age, banks should consider physical channels: rather than closing branches, they should transform them into centers. The centers should be positioned in an area where these customers live and work, and should focus exclusively on serving specific customer segments. A digital banking center might take Center for wealth management. This is a physical channel for consumers who demands substantial services in addition to retail banking, such as estate structuring, investment management, and tax guidance.

(ii) Center for small and medium-sized businesses (SMBs). This area provides SMB owners with business-related products and services. Professional consulting services include cash management, supplier and vendor management, as well as financing and capital raising methods. SMB customers may occasionally be offered asset and wealth management services as well.

(iii) Center for digital showcases. Certain banks are converting branches into showcases for their mobile and internet platforms. While these centers have a high-tech aesthetic, they also serve as physical channels for attracting customers. The center serves as a testing ground for clients interested in mobile banking but are not yet fully versed in its operation. For instance, showcase



centers could have a variety of devices and screens where clients can experiment, play, and learn with the assistance of bank personnel. By evaluating client data, banks can determine which center structure is best suited for various consumer segments..

one of three forms:

*Customer data understanding:* The transition from a single to a multi-channel of digital banking customers has begun. The rise of digital banking channels creates an extraordinary opportunity: new sources of customer data. Customers that use digital banking channels offer the bank only limited information about their profile, account information, and transaction history. The bank's understanding of its customers is constrained by the data contained in its internal systems. By contrast, customers who engage in numerous digital banking channels generate unstructured, external data via their Web browsing histories and communication applications. External client data from digital banking channels can pose a substantial potential for banks, enabling them to tailor customer relationships across channels. Banks can utilize the data to offer customized products, cross-sell, minimize churn, increase loyalty, locate new consumers, structure pricing, conduct customer service research, and manage risk. Additionally, financial institutions might utilize this data to map and identify the potential area. Banks can ascertain the viability of their footprint by focusing on the geographic location of key customer segments.

#### ***Digitizing the bank operating processes for digital banking***

Customers nowadays have more and more expectations about the digital banking experience, putting pressure on banks to transform operations digitally sooner rather than later. However, digital banking places many requirements on the operating model of banks. End-to-end process digitization is both a critical component of a bank's proposition and a significant value. In contrast to pure automation, process digitization adds value by responding to client requests for new and enhanced products and services. A new value-driven strategy is emerging, as evidenced by the following actions:

(i) Customer experience focuses on the selection of the appropriate products and a great customer interface.

(ii) Developing multichannel capabilities that are suited to the bank's customer base, including a modern self-service experience that is seamlessly linked with channels such as video, chat, and face-to-face contact.

(iii) Offering a limited number of things rather than attempting to supply everything; delivering the solutions customers desire in the most transparent and straightforward manner feasible.

(iv) Simplifying end-to-end processes by identifying and optimizing those with the optimal capacity, while maintaining a focus on client demands.

Banks can alter their operational models to meet their consumers' digital banking expectations by adhering to these principles consistently. The stakes are extremely high in obtaining the right to automate the process. Not only is there the potential for significant cost savings and scalability, but improved service to the bank's customer base will enhance income and reduce leakage. Digital banking will continue to thrive only if it fits the needs of an increasingly tech-savvy generation of consumers who will define the next banking experience.

### ***Digital banking customer***

*Digital banking customer is familiar with digital technologies*

There is a growing generation of digital banking customers, which will soon be the largest and wealthiest generation ever. Its constituents will expect to monitor their account and conduct transactions through mobile and web channels, anywhere and anytime. They would want total access to the latest offerings in addition to a more customized range of products and services. Consumers of digital banking have rushed to digital technologies, with adoption rates exceeding 90% for some devices, most notably mobile phones. The “consumer decision path” has increasingly shifted online across age divisions. The majority of purchases are now made after conducting research online and concluding in-branch, but we are beginning to see online sales as well. A big impediment to the advancement of this trend is the regulatory environment in many countries, which requires clients to finish transactions by signing documents in the presence of branch staff. Meanwhile, an increasing number of digital banking consumers, particularly younger ones, are indicating a preference for non-branch interactions.

When the young digital-savvy generation matures, the digital banking trend will accelerate. This generation has already familiar with mobile technology and is able to make digital payments comfortably. Four shifts in consumer behavior are identified as the digital-savvy customer is growing, an indication that the era of the digital bank is approaching:

Customer digital usage is increasing, including higher consumption of mobile service, the Internet, and smartphones. Consumer behavior is shifting with the increase in technology usage. Buying behavior will be integrated with social networking and reviewing of products. Online research is becoming the norm, and digital payments are becoming significant transactions. The non-branch channel is preferred. Channel preferences in digital banking will shift significantly from wealthier and younger segments toward non-branch channels. The Internet is growing strongly in the many segments, where ATM usage has become the norm; On the other hand, younger generations of customers have embraced the Internet as their preferred channel of communication.

Consumer decisions become multi-channel journey. Purchase decision from awareness to research, registration, and maintenance, is not a linear path anymore, it has become a multi-channel journey for digital banking customers. During the awareness stage and especially the research stage, most customers are referencing multiple channels and returning to those channels for after-sale services. Digital sales will accelerate. Right regulatory and technology environment will shift traditional banking sales such as deposits and loans to direct channels, in line with shifting consumer preferences and behavior trends in e-commerce.

*Digital banking customer segment*

A number of customer segments were identified to be involved in digital banking. Most of them have a good digital basis, high education, and already dived into multi-channel banking services:

*Digitally proficient:* These customers possess a bachelor’s degree or higher and represent the professional top talent of large enterprises or leading corporations.

*Digital middle:* These consumers can be considered as upper-middle class. They have at least a bachelor's degree and provide companies with middle management expertise. Additionally, the group comprises entrepreneurs in the service sector.

*Generation Y:* They are customers who aged between 15 and 30. Most of them are young professionals or college student, and several are on their first jobs. They are extremely digitally adept that they will constitute a substantial share of the foundation for swiftly arriving digital banking.

*Digital SMEs:* Small and medium-sized enterprises (SMEs) utilizing digital technology will continue to grow. These unconventional SMEs will soon become the standard, and they will seek a banking service platform tailored to their specific demands.

Each of these categories has distinct features that must be incorporated into the offer's development. The underlying premise is that major unmet requirements can be solved via a value digital proposition.

### **3. METHODOLOGY**

In this paper, the authors of this article employed both theoretical and practical research methods. A literature review is conducted to collect data from previous studies pertaining to the digital banking industry or digital transformation process. Then, specific methods such as the analytical method and theoretical synthesis, as well as classification and systematization techniques, are used to emphasize the paper's key concepts. Then, based on the data on the growth of digital banking in Vietnam, the author employs practical research methods to analyze the situation and describe the potential of the digital banking market in Vietnam, as well as recommendations for policy issuance to promote the expansion of digital banking in the country.

In addition, the author employs a qualitative research approach to comprehend the current state of the development of the digital banking sector in Vietnam. The author conducts a survey on the operations of seven popular Vietnamese digital banks in order to collect information on how to open a digital bank account, the adoption of digital banking services, and how to close a digital bank account. From the survey, the author will provide an in-depth analysis of the digital transformation journeys of the selected banks.

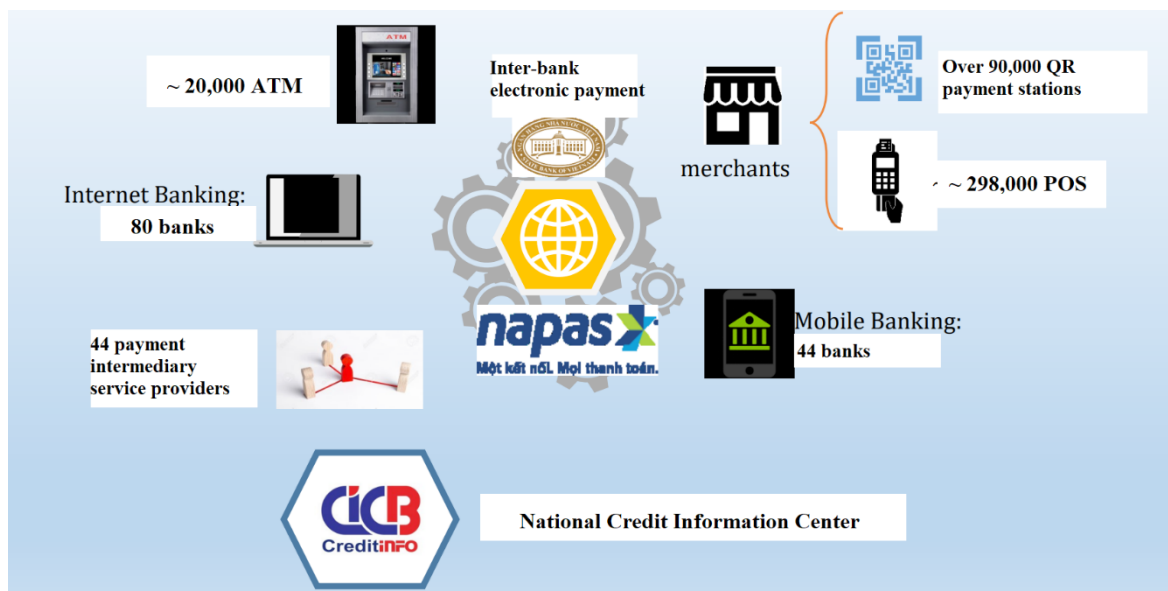
### **4. RESEARCH RESULTS**

On March 8, 2007, the legal corridor for digital banking development was formed when the Government issued Decree No. 35/2007/ND-CP on electronic transactions in banking activities. By 2016, the Vietnamese economy began to face the opportunities and challenges of Industry 4.0, and the digital banking development of commercial banks really took place. Commercial banks identify digital transformation as the center of business strategy, investing in technology, changing the organizational model for digital banking development, and cooperating with Fintech as vital factors. As a result, the services provided to customers have been diversified and helped commercial banks increase operational efficiency, creating a new competitive advantage.

#### 4.1. Factors supporting the development of digital banking

Following the report of McKinsey (2021), Vietnam has been becoming one of the countries with the highest growth rate in the digital banking market in the Asia-Pacific region. The digital payment and digital ecosystem were established with the connection of digital banking services with most other digital services in the economy, providing seamless experiences in all fields and conveniences for service users. service in digital space. The prospect of digital banking development in Vietnam has formed thanks to a combination of many factors, including infrastructure, population structure, habits of using banking services as well as the legal framework for banking digitalization. The details of factors supporting the development of digital banking in Vietnam will be illustrated as follows:

##### *Infrastructure for the development of digital banking*



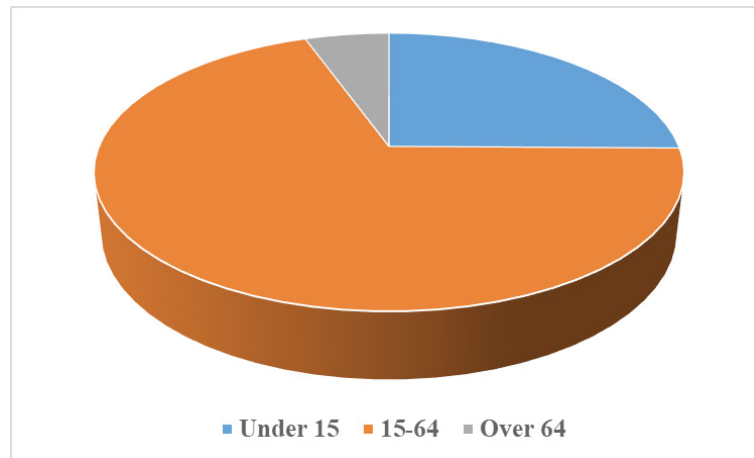
**Figure 2: The infrastructure for developing the digital banking**

*Source: The State bank of Vietnam (2022)*

Statistics of the State Bank show that: About 95% of credit institutions have or are in the process of developing a digital transformation strategy; about 80 credit institutions have provided Internet banking services and 44 credit institutions have provided Mobile banking services. There are more than 90,000 QR payment points in the whole market. Especially in the first 9 months of 2021, more than 36 million billion VND were transacted via the Internet and mobile phones, of which payment via Internet channels reached more than 435 million transactions, with a value of nearly 23 million billion VND. This means an increase of more than 54% in quantity and 30% in value over the same period last year. Payment via mobile phone channel also increased by nearly 75% in quantity and 94% in value (The State bank of Vietnam, 2022). Thereby, it can be seen that digital banking is the current trend when its development brings many benefits to users as well as credit institutions themselves.

### ***Population structure supporting the development of digital banking***

Vietnam has more than 97 million people, the population structure is young, and the labor force aged 15 and over accounts for nearly 70%, which is considered a potential market for digital banking development because the young generation is the driving force to increase the revenue for digital banking. They are technologically savvy and agile, representing different procurement patterns.



**Figure 3: The age structure of Vietnam in 2017**

Source: <https://danso.org/viet-nam/>

### ***Habits of using banking services***

According to statistics, nearly 70% of people in Vietnam have not yet accessed financial services and do not have a bank account. Up to 26% of transactions are in cash while the Internet penetration rate of Vietnamese people is up to 66%. This shows that there is still a lot of room for digital banking services to develop. It must also be recognized that the COVID-19 pandemic has changed people's habits of using cash. Digital transformation and non-cash payments have grown dramatically in recent times. Vietnamese people are increasingly sympathetic toward cashless payments. Survey data last year showed that 85% of banking users tend to use digital banking services more than 18 months ago (The State bank of Vietnam, 2020).

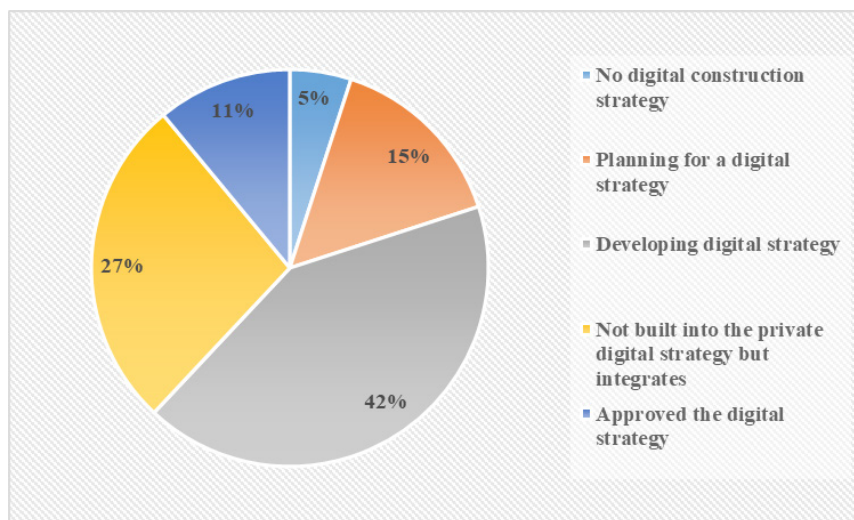
### ***The legal framework for banking digitalization***

Orientation and determination of the legal authorities: The State has issued many decisions and projects to help speed up the digital transformation process at banks, typically: Decision No. 1813/QD-TTg dated 28 October 2021 on the approval of the project to develop non-cash payment in Vietnam in the period of 2021-2025; Directive No. 02/CT-NHNN on promoting digital transformation and ensuring information security and safety in banking activities; Decision 810/QD-NHNN issued on 11/05/2021 approving the plan for the digital transformation of the banking sector up to 2025, with orientation to 2030, which identifies specific goals: At least 50% of banking operations that allow customers to perform completely in the digital environment; At least 50% of adults use electronic payment services; At least 70% of customer transactions are done through digital channels...

## **4.2. The overview of developing digital banking in Vietnam**

Until the end of 2020, the banking system in Vietnam included four commercial banks with State ownership of over 50%; three compulsory acquired banks; one social policy bank; one Development

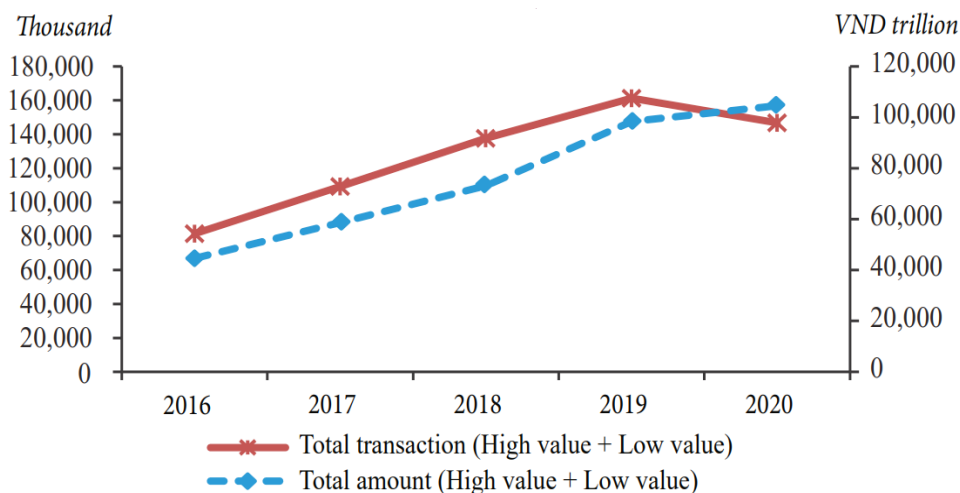
Bank; twenty-eight joint-stock commercial banks; two joint venture banks; nine 100% foreign-owned banks; 50 foreign bank branches (01 branch is in the process to shut down its operation) and one cooperative bank (Austrade, 2020). In 2020, the number of banks providing internet payment reached over 79, mobile payment is available at 45 banks and twenty banks deployed QR Code payment services. Thanks to the supporting factors for digital banking development, the Vietnamese banking system has been promoting digital innovation significantly. Following the survey conducted by the State Bank of Vietnam in 2020, 95% of Vietnamese credit institutions had, were developing or were planning to develop a digital transformation strategy, detailed as below:



**Figure 4: The survey on digital strategies of Vietnamese credit institutions 2020**

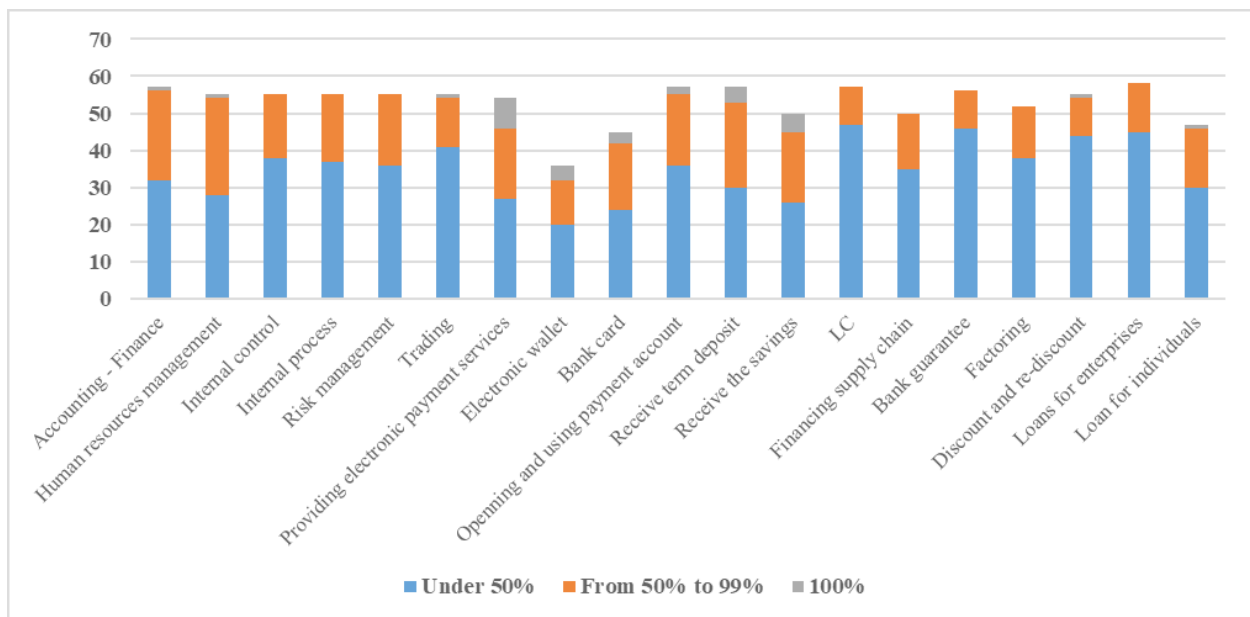
*Source: The State bank of Vietnam (2020)*

Besides, the number of transactions and the value of transactions via the interbank system have been rising during the period 2016-2020 (see Figure 5).



**Figure 5: Transaction fluctuation of the interbank electronic payment system**

*Source: The State bank of Vietnam (2020)*



**Figure 6: Degree of digitization of some banking operations**

*Source: The State bank of Vietnam (2020)*

Vietnamese credit institutions have been focusing on investing in technology and digitizing the core operations of the bank in order to change the management system, and customer service, and improve competitiveness. Being in the group of developing countries, Vietnam is in the early stages of developing financial services on mobile and the market still has a lot of potentials to exploit. Grasping this trend, many commercial banks have focused on investing in technology to change the management system, and customer service, and improve competitiveness in Industry 4.0. They have been applying in the operational process and the degree of digitization of some banking operations of banks in the survey mentioned in Figure 6.

The operations of digital banks in Vietnam have been extremely new. And the detailed data describing the significant current state of Vietnamese digital banking operations is not widely being public. In this paper, the author would like to analyze the general situation of Vietnamese digital banking development via a survey. The survey will present several main features based on the flow process of the digital banking process. The author chose seven main digital banks in the Vietnamese digital market, including VCB DigiBank, MB, Timo Plus, Cake, TP Live-Bank, OCB OMNI and Tnex, which are established by the joint-stock commercial banks. They are now considered as the most popular ones in the Vietnamese digital banking market. Table 1 will present the advantages and disadvantages of these banks.

**Table 1. Top seven popular digital banks in Vietnam**

No.	Name of digital bank	Founding organization	Advantages	Disadvantages
1	VCB DigiBank	Joint Stock Commercial Bank for Foreign Trade of Vietnam	<ul style="list-style-type: none"> <li>• Synchronize account login phone app and website.</li> <li>• Homogenize transaction limit of DigiBank VCB app with VCB DigiBank website.</li> <li>• Integrate more loan features, investment insurance</li> </ul>	<ul style="list-style-type: none"> <li>• Customers must convert to DigiBank VCB.</li> <li>• Online registration is not supported.</li> </ul>
2	MB	Military Commercial Joint Stock Bank	<ul style="list-style-type: none"> <li>• Diverse supporting applications such as eMB, App MBBank, and SMS Banking.</li> <li>• Free account opening supported by MBBank App.</li> </ul>	<ul style="list-style-type: none"> <li>• The products on the MB digital bank have not yet been unified.</li> <li>• There is a separate fee for each product.</li> </ul>
3	Timo Plus	Viet Capital Commercial Joint Stock Bank	<ul style="list-style-type: none"> <li>• Quick account registration and use immediately even without a card</li> <li>• Timo Plus ATM card can be applied to receive at home</li> <li>• Full banking services: Insurance, investment, credit card, loan...</li> </ul>	<ul style="list-style-type: none"> <li>• The brand is not big enough so it faces many difficulties.</li> </ul>
4	Cake	Vietnam Prosperity Joint Stock Commercial Bank	<ul style="list-style-type: none"> <li>• Open an account quickly in 2 minutes with a modern and convenient e-KYC process.</li> <li>• An account number is a phone number, easy to remember.</li> </ul>	<ul style="list-style-type: none"> <li>• Not popular.</li> </ul>
5	TP Live-bank	Tien Phong Commercial Joint Stock Bank	<ul style="list-style-type: none"> <li>• Support loan transactions, card opening, account opening, savings deposit, account registration...</li> <li>• Open 24/7 including public holidays.</li> <li>• Modern security technology</li> <li>• Video call to receive advice from bank staff.</li> </ul>	<ul style="list-style-type: none"> <li>• There are only a few locations in major cities.</li> </ul>
6	OCB OMNI	Orient Commercial Joint Stock Bank	<ul style="list-style-type: none"> <li>• Support all services 100% online such as opening an account in 30 seconds, issuing or changing passwords, saving money, borrowing money,...</li> <li>• Integrate a variety of outstanding utilities in one application.</li> <li>• Safety, high security with Face ID, fingerprint, ... according to European standard technology.</li> <li>• Regular promotions, constant incentives from partners.</li> </ul>	<ul style="list-style-type: none"> <li>• The length of bank account number is too long.</li> <li>• App iOTP must be installed for transaction authentication</li> <li>• Fee for withdrawing money via ATM card. It is not possible to deposit money directly into an ATM.</li> </ul>
7	Tnex	Vietnam Maritime Commercial Joint Stock Bank	<ul style="list-style-type: none"> <li>• Open an online account.</li> <li>• There are no money transfer fees, no withdrawal fees, no annual fees, no asset management fees, no hidden fees and other fees.</li> <li>• Pay by QR Code.</li> <li>• Connect with friends via Tnex.</li> </ul>	<ul style="list-style-type: none"> <li>• Not popular.</li> </ul>

Source: Summarized by author



## 5. CONCLUSION

According to the fourth industrial revolution, the development of electronic banking is inevitable. Commercial banks must seek new products and services to attract customers in order to better serve them. Banks must self-position and select appropriate digitalization development strategies based on their current structures, technologies, data, and business models. Electronic signatures, online shopping, and a social media center are examples of the banking industry's new approaches in the digital age. To be successful in developing digital banks, it is essential to define the unique characteristics of its customers as well as their expectations and concerns. Each bank must become a technology company and a digital technology company in order to survive and grow.

To promote the development of the digital banking system in Vietnam, there are four main points which the Vietnamese credit institutions should notice:

(1) Comply to the bank's general development strategy, combined with an internal assessment of the bank's technology application status, thereby building a strategy for digital technology application in banking activities; in which, there are two strategies that banks consider using, such as the thorn ball strategy (focusing on the application of digital technology in many aspects of the organization's activities) or the hedgehog strategy (focusing on an array of its spearhead activities);

(2) Balancing the budget for the implementation of digital technology applications: because investment in digital technology is a long process, including many different technologies and the investment costs are often very large. Therefore, banks need to understand their technology budgets to choose which technology to deploy;

(3) Forming a culture of digital technology application in the organization to promote the learning and creativity of all employees in the organization, is one of the keys to success in applying technology. Digital banking is also one of the ways to reduce investment costs in digital technology application activities;

(4) The managers of the bank have to commit to leading and pursuing the defined digital technology development strategy synchronously and consistently.

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# GREEN BANKING: INTERNATIONAL EXPERIENCE AND LESSONS FOR VIETNAM

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**Abstract:** *The green movement in the banking sector has been activated as many countries have started greening financial products by regulating banking practices and considering the project's environmental impacts when deciding to approve a loan. In many countries, green banks have been successful in promoting investment in clean energy to achieve the goal of balancing economic development and environmental protection. The article focuses on analyzing the experiences of other countries in the world, thereby proposing policy implications for Vietnam in the coming time.*

**Keywords:** *Green banking, international experience, lessons for Vietnam.*

## 1. INTRODUCTION

Today, the concept of “Economic development” has changed to “Sustainable development” which means “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” Therefore, managing the environment in a sustainable way becomes an urgent need for survival and development. It is not only the concern of the Government and the businesses that directly pollute but also of other stakeholders such as financial institutions. Thus, banks need to apply green solutions in operations, construction, investment, and financial strategy. Nowadays, green banks play an important role in reducing carbon emissions in society. Therefore, green banking becomes an important tool in building a clean and resilient economy and sustainable development for the future.

## 2. THE ROLE OF THE GREEN BANK IN SUSTAINABLE ECONOMIC DEVELOPMENT

In a broad sense, a green bank is a sustainable bank. The purpose is to carry out banking activities but it is accompanied by ensuring the safety of the earth's ecosystem, environment, and natural resources. According to the Indian Bankers Association, “Green bank is like a normal bank, but considers all social and environmental/ecological factors with the aim of protecting the environment and preserving the natural resources”. Green banking is also understood as a way of designing and providing banking services towards supporting activities that have a positive impact on the

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environment, reducing carbon emissions, saving natural resources, promoting development, and reducing carbon emissions. Besides, a green bank is also a key to minimizing credit risk, legal risk, and reputation risk. Ongoing green banking strategies such as green credit business, green financial products, green mortgages, reducing carbon emissions through paperless banking, and responsible services in reducing pollution for society. Green bank has been creating many benefits for stakeholders in reducing the harmful effects of pollution of activities on the environment, including:

**Firstly**, reducing costs, and helping to save energy and resources through the online banking model. With the digitization, computerization, or operation of core banking solutions, many banks have gone paperless for office correspondence, audits, reports, etc. Now, banks can save money by reducing paperwork, reducing offices and branches, using energy-efficient buildings, reducing complicated procedures, and focusing human resources on more important parts.

**Secondly**, creating awareness of businesses about environmental protection. Many NGOs and environmentalists are promoting environmental awareness in the community. And green banks are also contributing to raising the awareness of businesses in environmental protection through cooperation with each other or with other companies to sponsor environmental protection programs, thereby contributing to raising awareness of enterprises in environmental protection.

**Thirdly**, providing several solutions to finance the negative impact of Covid-19. Green banks have provided a model that can finance needed technology and infrastructure while creating jobs and addressing potential health risks such as air pollution and clean water assessment.

**Fourthly**, prioritizing capital for green loans with relatively low-interest rates, and implementing financial incentives for environmentally friendly products or projects such as fuel-efficient vehicles, green building projects, and solar energy system installers, thereby contributing to ensuring sustainable development and balancing all three economic - environmental - social factors for the countries.

### **3. EXPERIENCE IN DEVELOPING GREEN BANKS IN COUNTRIES AROUND THE WORLD**

#### **Experience in developing green banks in Australia**

Clean Energy Finance Corporation (CEFC) was established with a special mission to address a number of emissions challenges by accelerating investment in Australia's transition to a low-emission economy.

Therefore, CEFC implements an investment strategy in clean energy technology projects; makes commitments to invest in the private sector, and shares experience and expertise in the clean industry sector. With many practical solutions of CEFC such as:

(1) Links with co-investors in renewable energy production and energy storage, as well as agriculture, infrastructure, property, transportation, and waste.

(2) Through the Hydrogen Advanced Fund to support the growth of the clean, innovative, safe, and competitive Hydrogen industry.

(3) As Australia's largest clean technology investor, CEFC supports businesses operating in the clean technology sector through its Clean Energy Innovation Fund. With \$10 billion to invest on behalf of the Australian Government, CEFC delivers a positive return for taxpayers in the portfolio.

### **Experience in developing green banks in the USA**

The roots of the Green Banking movement in the US were laid in 2009 based on the first pillar of outreach, education, conferences, and other strategies. On that basis, the movement expanded to other states and sectors with the introduction of white papers and lectures. However, to be most effective, it needs to be combined with the provision of site-specific technical and project management support. Dialogues with local policymakers both contribute to education and general awareness about green banks and provide details related to market needs, funding sources, products, services, and legal regulation. Creating actual institutions is a practical endeavor that involves coordination among government officials, legislators, regulators, bankers, and industry participants. Local promotion, coordination, and technical support have been key in the effort to establish a green bank in the US.

Experience to establish and increase the operational efficiency of a green bank in the US is the need for two integrated actions: (1) raising awareness among policymakers about the benefits of green banking, and (2) technical support, identifying needs in specific locations to create specific products.

### **Experience in developing green banks in Colombia**

The Colombian government and the association representing Colombian banks (Asobancaria) signed the framework and voluntary guidelines in 2012 (Green Protocol - Protocolo Verde). The protocol provides a voluntary framework endorsed by the government. It sets out strategies and guidelines for banks to provide lines of credit and investments that will contribute to improved quality of life and sustainable use of renewable natural resources. The Protocol also considers environmental impacts and costs in asset management, risk analysis, and project financing. Although the implementation of the Protocol is voluntary, the signatories have agreed to use their best efforts to fulfill their commitments to consider, in their analysis of credit and investment risks, the environmental and social costs incurred in funded activities and projects, in compliance with Colombian environmental regulations. 55% of member banks reported setting up internal training on Green Protocol strategies.

## **4. LESSONS FOR VIETNAM IN THE DEVELOPMENT OF THE GREEN BANK**

Experience from other countries shows that regulatory, policy interventions, and central bank and government support have a significant positive impact on the green performance of banks. Therefore, the State Bank of Vietnam needs to provide clear regulations on green banking activities as well as specific support for financial institutions when investing in these projects. In addition, the Government needs to show leadership in providing a clear transition path so that households and businesses can build their investment decisions in green projects in the future.

Vietnam needs to set up a green financial fund to be able to access international funding. In addition, financial institutions should be encouraged and obliged to set up internal policies on green banking, green credit, policies on risk management, and especially periodic reports according to Directive No. 03/CT-NHNN, support the issuance of green bonds, attract domestic and international investors, finance green projects.

Promote educational activities, guide, and participate in lectures on the benefits of green banks in the sustainable development of Vietnam's economy. These activities must be combined with the provision of support mechanisms, information consulting, engineering, and project management in each specific location. Therefore, the State Bank and the regulatory agencies need to have a connection with the local authorities because it is related to market needs, institutional design, regulations, capital sources, financial products, and other actions.

Banking operations do not have much impact on the environment, but the external impact of customer activities is very important. Therefore, banks should promote such products, processes, and technologies to significantly reduce their carbon footprint on the environment. At the same time, it is necessary to apply the ethics of sustainability and responsibility to their business models, strategize their products and services, and operate their financial operations.

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# PERFORMANCE-BASED BUDGET MANAGEMENT: INTERNATIONAL EXPERIENCE AND PRACTICE IN VIETNAM

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**Abstract:** *Performance-based budgeting (PBB) or results-based budgeting is an advanced management approach to achieving the outcomes of public organizations by objectively measuring their performance and linking those results with budgets. The current public finance management (PFM) practice in Vietnam is still traditional, based mainly on inputs and activities, and lacks accountability for outputs and outcomes. Recently, the government (GOV) is making efforts to gradually shift from input-based to results-based PFM. This shift, if implemented successfully, will help Vietnam to fulfil its commitment to the Sustainable Development Goals (SDGs) and strengthen taxpayers' trust on the GOV. Various legal, organizational, and technical barriers have made the shift towards performance-based management (PBM) in the sphere of public finance far away, at least in the medium term.*

*Using the desk analysis as a key research method, this paper aims to provide practical recommendations to increase Vietnam's institutional and technical readiness to make a gradual shift towards this trajectory. The paper starts with the theoretical background of PBM adoption in the sphere of PFM, then analyses the PBB in some countries. Reviewing Vietnam's budget management system since the enactment of the State Budget Law of 2015 (SBL 2015), the study aims to identify crucial institutional barriers, which are hindering the PBM adaptation in the PFM system. In connection with international lessons drawn from the first section, practical solutions are proposed to remove such barriers and introduce new a performance-oriented budget management system in Vietnam.*

**Key words:** *public finance management, budget management, performance-based budgeting, and budget management*

## 1. INTRODUCTION

Since “Doi Moi” in 1986, Vietnam’s economy has grown impressively over the past three decades. Real gross domestic product (GDP) growth averaged 6.2 percent annually during 2016-2020. Economic growth coupled with the Government of Vietnam’s strong focus on inclusive social development has enabled Vietnam to drastically reduce the incidence of extreme poverty. During the pandemic of Covid-19, Vietnam appears as among handful countries, which have successfully combated the pandemic in 2020 while maintaining positive economic growth. These economic records are attributed to many factors, in which intensive reforms in the sphere of

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PFM is recognizable. Vietnam has established the right basics of a sound PFM system through the modernization of regulations. Reforms in Vietnam were progressed first and faster in the downstream/budget execution parts with overall good fiscal discipline and enhance transparency. Several reforms in the upstream/ budget formulation parts were introduced five years ago, namely the medium-term fiscal and budget framework and an attempt to pilot performance-oriented budgeting and public service management. However, as assessed by the recent Public Expenditure and Financial Accountability (PEFA) Assessment (WB 2022, forthcoming), most of indicators for adaptation of performance-oriented budgeting are still unsatisfactory. This study tries to unmask causes of these deficiencies and suggests key corrective actions.

Using desk review of international case studies and institutional analysis of the legal framework for performance budgeting, the paper aims to investigate the good practices in PBB around the world and relate them to current practice in Vietnam. From that, practical recommendations to increase Vietnam's institutional and technical readiness are provided for a gradual shift toward adoption of performance budgeting in the country. For this objective, the paper is constructed in five sections. After this introduction, Section 2 describes the research methodology of this study and theoretical framework for PBM in the sphere of PFM. Review of cross-country case studies of PBB adoption and getting of lessons learnt for Vietnam is presented in Section 3. After reviewing Vietnam's budget management system since the enactment of the State Budget Law of 2015 (SBL 2015) and the following PFM system in Section 4, Section 5 concludes and provides recommendations on the policy roadmap for strengthening the country readiness to shift toward PBB in Vietnam.

## **2. RESEARCH METHODS AND THEORETICAL FRAMEWORK**

### **2.1. Research methods**

Given the RBB is a relatively new approach, to examine the lessons learnt for Vietnam from good international practices, the following methods are adopted in this paper:

- *Document study.* This method is applied to reviewing documents, institutional settings including current policies, regulations and mechanisms shaping the legal framework, which is related to PFM and performance budgeting. The review is crucial to provide sound diagnosis on the potentiality and necessity of applying RBB in Vietnam. Access to the websites of the GOV, Ministries, some provinces (self-financed such as Hanoi, Can Tho, Da Nang and non-self-financed such as Tuyen Quang, Bac Lieu, Thanh Hoa) is also conducted to collect documents such as the national and provincial socio-economic development plan (SEDP) 2021-2025, sectoral plans, national target programs (NTP).

- *Stakeholder consultation.* Intensive consultations with UNDP international experts and Ministry of Planning and Investment (MPI) and Ministry of Finance (MOF) – two key ministries working in the field of budget allocation and monitoring are made to develop the analytical framework and policy review.

- *Case studies analysis* with advanced performance budgeting experience. These countries are selected as they have empirical evidence of RBB process at both ex-ante and ex-post levels base on the OECD guidance (OECD, 2007).



Given diversity of theoretical background for PBB, selection of the sound theoretical framework applicable to the country study is made based on the Technical Guidelines of international experts under the INFF project (and the pilot component document to develop the Medium-term Financial Framework - MTFE) and Expenditure Framework - MTEF) in alignment with the guidelines issued by development partners (OECD 2007, ADB 1999, WB 2000, IMF 2014, and UNDP countries (2021).

## **2.2. Theoretical framework**

State budget management is the way the State mobilize, allocate and utilize public resources to generate expected impacts on the economy and the society, either in short, medium, or long-term. Performance information has been integrated by many countries, especially OECD countries, into the budget process as part of efforts to improve decision making by moving the focus away from inputs (“how much money will I get?”) towards measurable results (“what can I achieve with this money?”). Therefore, the introduction of performance budgeting has been linked to broader efforts to improve expenditure control as well as public sector efficiency and performance. Thus, performance budgeting can be combined with increased flexibility for managers in return for stronger accountability for the results, to enable them to decide how to best deliver public services. In short, PBB (or results-based budgeting as referred to in many other documents) is a crucial component of PFM, aiming to improve the efficiency and effectiveness of public expenditure by linking the funding of public sector organizations to the results they deliver, making systematic use of performance information (OECD 2007). PBB helps the public sector to maximize taxpayers’ contributions to improvement of social welfare. Specifically, PBB drives GOV to do right things (its interventions aligned with strategic priorities and higher efficiency and effectiveness of budget expenditures) in right ways (improved effectiveness in public organizations). PBB also can strengthen public trust on the GOV via better communication and consultation between two parties.

For PBB to be operationalized, four basic conditions should be available in the budget management process:

(i) Performance information (the objectives and results of GOV expenditure) is shown in budget documents as key performance indicators (KPI) and is used as basis (directly/indirectly) to decide on the amount of funding for each program or activity.

(ii) There is coherence between strategic objectives (outcomes) with expected outputs and tasks and activities.

(iii) A balance should be maintained between budget autonomy/flexibility and accountability of budget users

(iv) A monitoring and evaluation (M&E) system should be in place to measure outputs and outcomes of each program or activity. Information on outputs and outcomes need to be made available to the public in a transparent manner.

Experience shows that, for PBB to work, reconsideration of spending priorities and program performance need to be formally integrated into the budget process, which is illustrated in Figure

1. These routines need to be designed to make maximum use of available information on program performance. The precise form such routines should take should be country-specific, depending in part on national specifics such as the characteristics of the political and administrative systems. However, some key common elements are:

- a “strategic phase” early in the budget cycle, which incorporates a preliminary consideration of the GOV’s broad expenditure priorities.
- an expenditure review process—even if a very simple one—that is designed to keep under review the appropriateness and effectiveness of existing programs and that can use performance information to help identify those that can be cut back, or even eliminated, as well as those that might be expanded:
- a systematic process for scrutinizing all proposed new spending initiatives; and
- a requirement that all spending ministry budget submissions be supported by information on the effectiveness and efficiency of its expenditure.

Also from international experiences, availability of the following techniques is crucial to support application of PBB in any context:

- *Medium term expenditure framework (MTEF)*: MTEFs are multi-year strategic budgeting exercises that are often seen as a way of reconciling aggregate fiscal discipline and public spending plans. They are introduced with a view to create better linkages between the policies and plans that ministry produce and the revenue and expenditure forecasts that ministry of finance produces. The goal is to guide annual resource allocation processes.

- *Budget classification systems*: Coding and classifying budget items according to their economic, administrative, or functional nature allows for the interpretation and analysis of what would otherwise be many unspecified numbers included in budget reports. The more detailed the budget classification system used, the more it will provide a comprehensive and useful picture of GOV operations. International organizations have developed common budget classification standards (such as the IMF’s GOV Finance Statistics or the UN’s COFOG system).

- *Using cascading program-based results chain to develop performance indicators*. Results framework imbedded in a program specifies its goals and expected outcomes. This is also a center of performance planning in which a logical linkage between inputs, activities and processes, outputs and outcomes are clearly defined and objectively monitored.

- *Performance-based budget reporting system*: The budgeting reporting system should be designed in favor of performance M&E, in which performance and output targets should be included in budget document and there is a requirement that annual budget execution reports made by ministries and spending units should present the actual performance against set targets in all or almost their spending programs.

The review of international experiences and assessment of the readiness of the current budgeting practice in Vietnam in the following sections will be made against this framework.

### 3. RESEARCH RESULTS

#### 3.1. Cross-country Experiences of PBB in the world

Results-based budget management reform has been reformed in many countries, focusing on strategic planning and the evaluation of budget expenditure outcomes. In fact, right from the early 50s of the twentieth century, a lot of budget reforms of developed countries in the direction of loosening input control, cost control, and shifting to output control towards the end outcomes. The trend of results-oriented budget management in OECD countries is the use of performance-based management, budgeting, and reporting. Australia and New Zealand were the first to initiate performance-based budget management reforms and in the late 1980s were followed by Canada, Denmark, Finland, France, the Netherlands, Sweden, and the United Kingdom and USA. In the late 1990s to early 2000s, Austria, Germany and Switzerland introduced versions of the results-based budget reforms, respectively. Five countries' experiences described below are representatives of the most advanced practices in adoption of PBB in different level of success in the world.

*Australia.* Since the early 1980s, the Australian GOV has developed initiatives to guide the budget and budget management system based on the results-based principle. In 1996, a results-based budget was widely discussed, and a reporting framework was introduced in the Australian public sector. This reporting framework was first implemented in the 1999-2000 budget, in which Australia's budget structure is designed towards results. When results-based resource allocations are made, operational management in spending units has more flexibility in making spending decisions. Although the results-based budgeting framework is comprehensive, elected members of the Australian Parliament have criticized that the outputs in the annual budget execution reports is defined in too aggregate manner to oversee. Furthermore, information on outputs and outcomes is rarely used in decision-making, and there is lack of guidance for new results-driven spending.

*Singapore.* From its announcement of independence in 1965 to before 1978, Singapore's budget management followed the traditional style of strict input-based management for every single specific spending item. In 1978, the first budget reform was implemented in Singapore. Program-based budgeting is inherited from the US model of "A performance-based and program/project-based budgeting system". The new way of budgeting emphasized on committed outputs so that a process, for which a public organization's priority programs and activities to produce such output became a part of the budgeting process. However, the biggest obstacle was the failure to establish a mechanism to guarantee budget sustainability. Faced with budgetary constraints, a "hard" budget program through a "block grant" framework was introduced in 1989, aiming to achieve the constitutionally stipulated fiscal target of getting budget surplus after a certain period (usually 5 years) although budget deficit in a certain year could be allowed. However, focusing on outputs only was not strong enough to ensure "value for money" in line with the goals pursued by the GOV. Public organizations had yet to really pay attention to the results.

In 1996 a comprehensive RMB framework was officially adopted within the "Public Services Reform Program for the 21st Century" aimed to bring Singapore's public services "being in time for the future". The main pillar of that RBM approach was "the GOV-as-a-whole strategic mapping". This mapping allowed the GOV to focus on the overall goals, identified the most important priorities and coordination between ministries and organizations. The mapping also outlined

needed to direct ministries' concerns and actions towards common development outcomes. This was considered a relatively synchronous framework for managing human and financial resources in a systematic approach to achieve results. Also in this radical reform, the GOV emphasized the change in public service delivery in close relationship with PFM reform. Public organizations were delegated fully autonomy to act as independent organizations following the Autonomous Agencies model in terms of human and financial management, flexible to changes in the domestic and international environment while being more accountable to results. To measure outputs, the MOF did not impose output and performance indicators on spending ministries and public organizations. Ministries were required to set up performance indicators for themselves, which then were used in budget discussions with MOF in budget allocation and performance evaluations. The Reporting Card tool was widely used to "measure" citizens' satisfaction with public services for the operation of the GOV-as-a-whole and of each ministry. The concept of "Productivity Dividend" comes into play if ministries wished to submit new expenditure proposal. To have a fair cost-benefit analysis of spending units' performance, accrual accounting has gradually introduced in parallel with traditional cash accounting.

**Malaysia.** Outcomes-based budgeting (OBB) is a strong step forward in Malaysia's PBB implementation, building on the foundation of budgetary reforms first implemented in the early 1990s under the title of the Modified Budgeting System (MBS). To strengthen linkages between policies, plans and budgets, the MOF required outcomes orientation even in annual budget. Six key features of the new budgeting system were: (i) a strong focus on outcomes; (ii) clear vertical alignment of country priorities and ministries' programs and activities; (iii) management of cross-sector initiatives; (iv) consolidation of capital and recurrent expenditures; (v) accountability for outcomes and discretionary use of resources; and (vi) a systematic M&E mechanism.

OBB was also designed to better integrate capital and recurrent budgeting processes by requiring spending agencies to submit their development investment and operational budget within a single and consistent outcome framework. Starting from strategic development priorities set out in the five-year national development plan, OBB linked outcomes in different levels - national strategy, ministerial outcomes, program outcomes and activities' outputs - through an integrated results framework. Key performance indicators were defined at each cascading level of output to outcome. Performance agreements at each level were reflected in the activity performance management framework, which is attached to the Operational Budget Sheet. At the higher level, the program performance management framework displayed the agreed key performance indicators and results for each program and is also attached to the Program Budget Sheet (PBS). The Ministry's Executive Summary summarized the ministry's activities in a ministry-wide Results Framework in consistence with total inputs required to implement all programs and activities.

**France.** The SBL, which was promulgated on August 1, 2001, and took effect in 2006, requires that the state budget be allocated according to spending assignments, each of which may consisted of different spending programs.

- At the macro (policy) level, the budget was allocated by function including education, health, and national defense... At this level, budget plans were proposed by the GOV and were approved by the Parliament for each expenditure assignment in alignment with the State's overall macro policies. Within its

power, the Parliament could restructure budget allocations among different programs in the same spending assignment.

- At the program level, the program budget defines the implementing agencies for specific State policies. Each program consists of a set of activities assigned to a responsible person (Minister), who would then receive a lump-sum budget that included a ceiling for salary and wage payment. (S)he also was given discretion for using the lump-sum budget to implement agreed-upon objectives and tasks.

- At the operational level, program objectives were specified, and budget information was presented in line with the end use purposes.

**New Zealand.** In 1988, the GOV of New Zealand began a PFM reform program as an effort to improve efficiency and strengthen accountability in the public sector. The main contents of this reform program included: (i) Moving from inputs-based to outputs- and outcomes-based management; (ii) Reforming the budget appropriation system for better delineation of the GOV's and local authorities' roles and better accountability arrangements between the GOV and the Parliament, and between business executives and ministers; and (iii) delegating more power to business executives within a block-granting mechanism based on accrual accounting principles.

To implement this reform program, several supporting legal documents were issued by the GOV of New Zealand. Typically, the Public Finance Code of 1989 stipulated that budget should be managed based on goods and services provided by ministries and agencies rather than on the appropriated resources. Accordingly, ministries and agencies committed to the GOV on delivered goods and services and received in return budget to complete the signed contracts. Following this Code, an output-based budget must: (i) be simple; (ii) be able to provide real-time information on cost of each output; (iii) engage participation of all agency's staff to achieve its goals; (iv) have a clear distinction between capital and recurrent spending; (v) secure accessibility to, and quality of, information and data for performance assessment.

New Zealand's outputs-based budgeting process included the following steps: (i) drafting ministries' budget proposals with clear specification of priorities and outputs; (ii) issuing budget guide in which budget process and macro budget ceilings were well defined; (iii) developing agency's budget estimates in accordance with the set budget ceiling.; (iv) bottom-up consolidating agencies' budgets to come up with a ministry's budget; and (v) approving the budget given availability of required information for timely execution.

**In short,** the cross-country experiences show that different country adopting PBB has gained successes in different degrees. Singapore and New Zealand seem having the most advanced progress, while Malaysia relies more on the strong linkage between the development planning and budgeting cascading from the macro level to the activity level. France still bases its PBB much more on the administrative hierarchy and Australia seems focusing more on the reporting and presentation of results in budget documents. Nevertheless, a common observation here is that PBB is perfect in theory, but currently there is little evidence on which performance-based approach works best. Development outcomes achieved by a country due to the contribution of both public and private sectors, moreover different countries have different conditions of fiscal decentralization and business cycle effects, politics are important factors affecting the results of budget expenditure.

Therefore, it is important to have incentives to promote efficient use of budgets by public institutions and to ensure accountability for outcomes. Four major challenges for all countries, which wish to apply PBB are: (i) availability of a needed management information system; (ii) clear delineation of mandates, tasks and functions, and accountability of public agencies in the system; (iii) capable human resources to work with the PBB; and (iv) affordable costs for establishing a PBB system.

### 3.2. Overview of the planning and budgeting system in Vietnam

In Viet Nam, the process of planning and budgeting ranging from the long-term one – also known as the Strategy to the medium-term and annual one is derived from the general guiding framework of the Party and the GOV. These general guidelines are often demonstrated through international commitments that Viet Nam is a signatory, the 5-year resolutions of the National Party Congress, the stipulations in legal documents and codes, resolutions of the National Assembly (NA), and the GOV.

With a view to implementing the overall guiding documents on the above requirements and principles, a development planning system at the national level has been in operation (hereinafter collectively referred to as the *development planning system*), initiated from these long-term strategic documents (such as the National socio-economic development strategy - SEDS, sectoral development master planning and strategies, or integrated regional and local SED master planning), medium-term orientative socio-economic development plans (5-years SEDPs) and annual SEDPs. Formulation of these strategies and plans follows the principle that the lower-level plans must be submissive or conforming to the higher-level plans and must specify the overall objectives of the higher-level plans into detailed specific objectives by sector, sphere, territory. Down to the lowest planning level (annual SEDPs), it is considered the step-by-step implementation plans to ensure that after 5 years, the objectives and targets of the 5-year SEDP will be achieved.

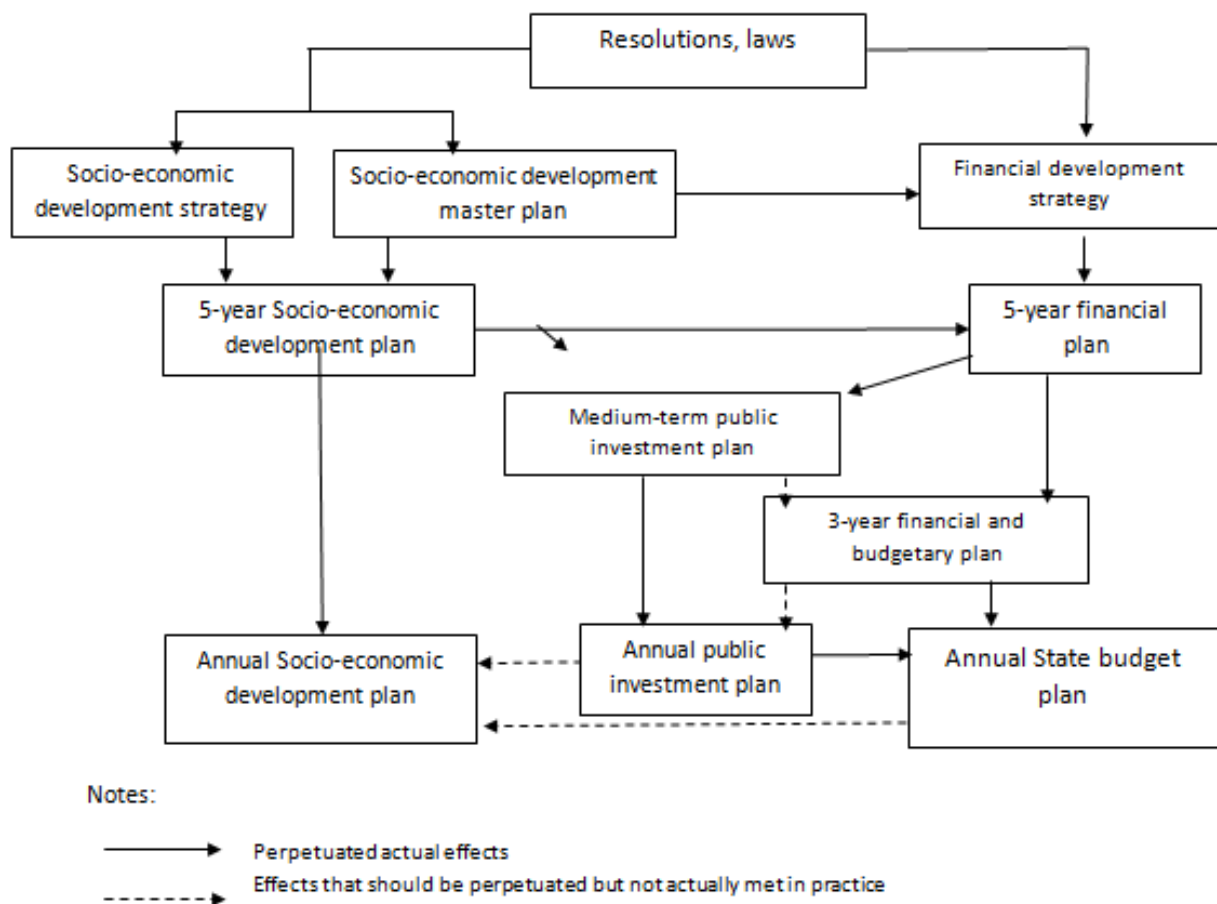
Parallel to the development planning system is the financial and budgetary planning system. Like the development planning system, the financial and budgetary planning system is also composed of various documents ranging from the long-term strategic orientation (top level), or financial development strategies, to medium-term strategic orientation plans (or the 5-year financial plan – 5yFP), and below that are the medium-term or annual executive plans (MTIPs, 3-year financial and budgetary plan - FBPs and annual public investment plans (APIP), annual state budget plan - ASBPs). Thus, in principle, the SED system sets development objectives and targets, and to realize those objectives, specific directions and resource allocation plans are needed. Therefore, only when a clear and logical connection is present between these two systems can resources be secured to realize the objectives of the development plans. This relationship can be visualized in Figure 1.

In the development planning system, a 5-year SEDP is considered the central plan to concretize the national, sectoral, and local SEDS into a series of five-year SED priorities and tasks. It defines the SED orientations and tasks in each 5-year-plan period of the country, sectors, and localities. Every year, the GOV issues a directive requesting all levels and sectors to formulate annual SEDP to translate the five-year development objectives and tasks into objectives and activities of the annual SEDP. Therefore, the annual SEDP can be seen as a tool to implement the 5-year SEDP. Simultaneously, the financial-state budget planning system defines revenue assignments,

allocation, and utilization of the state budget as an effort to achieve selected SED orientations and tasks in 5-year period while ensuring fiscal sustainability.

In addition to these holistic planning tools, depending on its specific tasks, in each sector, sectoral strategy or action plan can be formulated to address some of its specific objectives. However, in principle, only SEDS/SEDP have obvious linkage to resource allocation. Therefore, sectoral strategies or action plans must be mainstreamed into the national development planning system for the likelihood to be funded by state budget.

From the perspective of financial-budgetary planning, the highest orientating document is the Financial Development Strategy (FDS), and this strategy is also devised to ensure the implementation of a national SEDS. To implement FDS and for conformity with 5-year SEDP, since 2016, a 5yFP has been formulated for the national and provincial levels. Based on assigned targets on state budget revenue, expenditure, deficit, and public debts as stated in the fiscal balancing framework under the 5-yFP, the availability of budget funding for public investment within 5 years will be determined, serving as the basis for building the 5-year MTIP.



**Figure 1. Development planning and financial and budgetary planning system in Viet Nam**

If the 5-yFP only sets forth major targets and directions as an attempt to formulate a framework for management and administration of state budget activities, the “sub” plans of the 5-yFP including the 5-year MTIP, the 3-year national FBP, the APIP and the ASBP are the translation of

those targets and directions into specific budget allocation alternatives for investment programs, projects, and recurrent spending activities in each corresponding period.

A national MTIP is a portfolio of public investment programs and projects that are expected to be executed over a five-year period in order to realize the objectives of SEDPs and is within the budget limits established by the 5yFP. Therefore, MTIP can be considered the longest-term plan that transmitting planned development objectives into specific costed investment activities. However, as indicated in the name of this document, this plan only reflects a part of the medium-term budget expenditures, which is the capital budget. The MTIP is formulated for a fixed 5-year period. At the end of each 5-year period, the planning agencies will take the lead in summarizing and reviewing/evaluating the implementation of the last MTIP, forwarding ongoing public investment programs and projects to new MTIP for the next 5 years, coupled with proposal for new public investment programs and projects. The newest national MTIP is for the 2021-2025 period, which was approved by the National Assembly's (NA's) Resolution No. 29/2021/QH15 dated July 28, 2021. In this MTIP, the NTPs for the 2021-2025 period such as the NTP on New Rural Development, Comprehensive Poverty Reduction NTP, and NTP for ethnic minorities for the 2021-2030 period are incorporated in the portfolio and costed.

In summary, both the 5-yFP and the five-year MTIP are formulated for a "fixed" 5-year time frame, so they are too rigid to respond to socio-economic fluctuations that are likely to occur during the 5-year-plan period, given unreliability of five-year forecasts of major macro variables. Thus, it is crucial to have a more flexible medium-term financial and budgetary planning tool to serve as a bridge between the 5-year financial plan and the annual budget plan. That comes to the role of the 3-year FBP.

It should be noted that, while the 5yFP is built as per a static time frame (a fixed 5-year period), the 3-year FBP is built in a rolling fashion. Thanks to the flexibility of the rolling principle, the 3-year FBP allows continuous updates of macroeconomic indicators and variables, thereby supplementing and adjusting revenue forecasts in line with the actual conditions.

To increase the strategic vision and predictability in the allocation and use of the state budget, the SBL 2015 stipulates that the central level, the provincial level, and level-1 budget estimating units<sup>1</sup> (to which budgets are directly allocated to from the Prime Minister or People's Committees at all levels) must formulate a 3-year FBP as stated above. Although the 3-year FBP provides a basis for preparing annual state budget estimates, it is still a tool to direct the allocation and use of the state budget in the medium term only, helping to strengthen the ability to analyze and forecast to set priorities for state budget allocation, contributing to the best realization of development objectives. However, the plan itself is not a substitute for annual budget plan. Therefore, the 03-year FBP is formulated and submitted to the NA or the Provincial People's Council for reference

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<sup>1</sup> Is a budget estimating unit assigned by the PM or a People's Committee to prepare budget estimates (pursuant to Clause 9 Article 4 of the SBL 2015). The following agencies are referred to as level-1 budget estimating units: (1) Line ministries and equivalent organizations at the central level; (2) Line departments, agencies, and equivalent units at the provincial level; (3) Office/Divisional-level units and equivalent units at the district level that are required to prepare and submit consolidated financial statements to a finance management agency and the State Treasury of the same level as prescribed.



when the decision on an annual budget plan is made, but the national and provincial legislatures do not approve this 03-year FBP, which is seen as a limitation on the enforcement of this document.

Annual budgeting system involves an equalization mechanism between the central and the subnational government levels in Vietnam. Subordinate budgets receive additional funding from superior budgets in two types of transfers: balancing transfer and targeted transfer. The basis for this additional budget is the allocation criteria and norms, but mainly based on input factors, not closely associated with development outcomes. Different from other countries in the world, Vietnam's state budget system is "integrated" among budget levels, whereby the National Assembly decides the state budget, including the central budget and the subnational budget, which consists of provincial, district and commune budgets. The amount of the central budget granting to the local budget in the form of balancing transfer is determined by the gap between locally collected revenue and its expenditure assignments. Revenue targets are assigned by the central government to each province, while expenditure assignments are determined based on the allocation norms, which varies with population and geographical areas. Meanwhile, targeted transfers are earmarked grants to subnational governments to implement the central government's target programs and national target programs in their territories.

### **3.3. The readiness to move towards performance-based budgeting system**

*Medium-term expenditure framework.* In Vietnam, the term "task performance" first appeared in the SBL 2015, together with supporting tools such as a 5fFP) and a 3-year FBP. As said, these are important tools used to ensure a linkage between socio-economic development goals and available financial resources in the medium term, and to develop strategic frameworks for public policy and spending. However, the framework is just partial because it includes only the part of recurrent expenditure, while capital budget still followed formulation of MTIP and APIP as stipulated in Public Investment Law of 2019.

*Budget classification systems.* From 2017, the current system of budget classification allows for six types of classification: by organizations, by functions, by economic types, by national programs and projects, by source of funding; and by budget level. 60. Central budget revenues are included in state budget revenues and classified according to their sources (domestic revenue, revenue from crude oil and balance income from import-export activities and aid collection) and category, such as tax revenues (detailed by tax codes); (ii) Collection of fees and charges; (iii) Non-tax revenues (capital recovery, dividends, profits, profit after tax, difference between revenues and expenditures of the SBV; collection of land tax, water surface rent, land use levy, rent and sale of State-owned houses; collection of fees for granting mining rights; and other sources of budget revenue; and (iv) grants from aid. The economic elements are classified only at the aggregate level such as: (i) development investment, (ii) recurrent, (iii), interest payment, (iv) aid spending, (v) supplement financial reserve funds, (vi) carry-over of resources to the next year, (vii) transfers. However, the above contents have not been classified in detail by each expenditure item at the stage of budgeting and budgeting assignment. For example, recurrent expenditures have not been disaggregated by

wages and salary, goods and services, transfers, and subsidies at the budget formulation state. The budget expenditures are categorized by administration and by function. Administration classification is applied at budgetary central government. Functional classification is detailed by 13 functions: defense; social security, order, and safety; education and vocational training; science and technology; health, population, and family; culture and information; broadcasting; sports; environmental protection; economic activities; activities of state management agencies, parties and mass organizations – social security and other expenses. However, in practice, only recurrent expenditures are classified by such criteria. In short, inconsistency of budget classification between capital and recurrent expenditures and lack of specificity in sub-categorization of each economic type make the system in unfavored of PBB-ing practice.

*Using cascading program-based results chain to develop performance indicators.* The documents guiding the making of these plans mainly focus on forecasting budget revenues and expenditures in the medium term to ensure fiscal discipline without a clear connection between inputs, outputs, and outcomes for the entire system and between policy level and ministerial and spending unit levels.

*Performance-based budget reporting system.* For majority of ministries, performance plans include only overall development objectives and some output indicators, not other performance indicators such as outcome indicators. Performance information is not disaggregated by program and/or function and not published. Report on achievement of performance results is included as the first chapter of annual sector development plan for the fiscal year. For most of ministries, their performance reports present only achievements of key outputs and outcomes at aggregate level, not broken down by function or program.

*There are some ad hoc efforts to make a partial shift of the planning and budgeting system towards PBB.* The first attempt to shift from the input-based budgeting to output-based budgeting is in the sphere of recurrent expenditure with the birth of the GoV's Decree No. 32/2019/ND-CP dated April 10, 2019, regulating the assignment of tasks, ordering, or bidding for the provision of public services funded by the recurrent budget. This is an important step to associate the current state budget management practice with task performance. This Decree tries to force public service delivery units (PSDUs) to “compete” with the private sector in service provision. The GoV will pay for the service outputs as defined in the performance contracts with winning providers, no matter if it is public or private entity.

*The other attempt to promote output-based budget management is to grant a financial autonomy to PSDUs has initially.* The autonomy mechanism for public non-business units is regulated by the GoV's Decree No. 60/2021/ND-CP (effective from August 15, 2021), replacing Decree 16/2015/ND-CP. According to this regulation, PSDUs are encouraged to be more financially self-resilient. The higher the degree of financial autonomy a PSDU has, the more discretion in using grants from the GoV budget to improve the quality of public services it is delegated.

However, both efforts are facing challenge of how to measure outputs by objective indicators and reasonable unit cost for producing expected outputs. Lacking the measurable indicators for outputs and output-based M&E system, the introduction of performance-oriented budgeting system in Vietnam is still a long journey to access.

#### 4. RECOMMENDATIONS AND SOLUTIONS

Learning from the international good practices, based on the above analysis, five high-priority solutions are recommended so that Vietnam's readiness to introduce PBB is strengthened.

***Develop a comprehensive framework for PBB management with emphasis on national, sectoral, and local development plans*** that need to be specifically translated into projects, programs, and tasks with objectives, outputs, outcomes, timing, priorities, and financial resources for implementation. The MTIP, the 3-year FBP and the annual budget plan should show a clear connection between outputs and outcomes identified in national, sectoral, and local development strategies and plans and related funding needs. A pilot application of a comprehensive PBB framework should be made for a certain sector before expanding to the entire GOV. PSDUs should be fully financially autonomous to act as an independent agency in an almost enterprise-like model.

***Classify budget expenditures according to the results of task performance.*** The Treasury and Budget Management Information System (TABMIS) is now classified by national projects and target programs and expenditure activities. Therefore, for important multidisciplinary activity (such as spending on climate change, green growth, or gender equity), a separate task code should be specified in TABMIS to help the process of analyzing expenditures by task and its outcome conveniently, easily, reliably, and systematically.

***Build an outcomes-based M&E system.*** Develop a comprehensive outcomes-based M&E system, especially with SMART indicators. This data system will help ministries, sectors, and localities to evaluate the effectiveness and efficiency of budget spending and help performance auditing agencies of ministries and elected bodies verify the reliability of information. Development of a service and performance monitoring mechanism (including a user feedback mechanism) for all PSDUs is recommended.

***Promote publicity of information on budget management according to task performance.*** Building information systems for budget and project management and monitoring is crucial. Consolidate information systems, expand access to financial management information systems to all ministries, sectors, localities, and the State Audit. The database system on performance associated budget expenditures at all budgetary levels should be electronically linked. Information on spending units' performance needs to be made available to the public in a transparent manner, with emphasis on publicity on the website and mass media.

***Develop capacity and effective coordination mechanism among state budget management agencies.*** Intensive training on result-oriented culture and thinking for planning and finance officials in elected agencies, executive organizations in both central and local levels is in necessity, from which performance-oriented planning and budgeting, M&E will be introduced in a sequence. A mechanism to exchange, coordinate and share information and expertise in the public system, especially among such agencies as the Ministry of Finance, the Ministry of Planning and Investment, the National Assembly, the State Audit and line Ministries, People's Councils, People's Committees, must be established. Power and responsibility of the public agencies' heads should be clearly defined so that they have enough maneuvers to exercise to produce committed outputs.

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# FINANCIAL MANAGEMENT OF PUBLIC NON-BUSINESS UNITS IN THE CONTEXT OF FINANCIAL AUTONOMY

PhD. Pham Thu Trang<sup>1</sup>, PhD. Pham Thu Huyen<sup>1</sup>

**Abstract:** *In the context of deeper and broader international integration, renovating the financial management mechanism of public non-business units is one of the key tasks in public financial reform in Vietnam. The implementation of promoting the autonomy mechanism of public non-business units in line with the government's orientation has brought great opportunities and challenges for public non-business units in Vietnam. Therefore, the financial management of public non-business units will play an extremely important role, being the key stage and determining the success or failure in the management process as well as the development of each unit public career. In this article, the authors focus on researching and evaluating the financial management of public non-business units in recent years, thereby proposing practical financial management solutions to contribute to improving the efficiency of public service providers. financial management results of public non-business units in the current context of financial autonomy of public administrative units.*

**Keywords:** *Public non-business units, financial management*

## INTRODUCTION

In the context that the operating mechanism of public non-business units in Vietnam is being renewed today, the research has a practical significance, as this helps public non-business units practice financial management to improve the efficiency and quality of the public services provided to the people. With the aim of proposing solutions for sound financial management on a theoretical and practical ground to help public non-business unit managers make financial decisions that are associated with the process of developing and utilizing financial resources and funds to achieve their goals in the strategy and operational plans, this article consists of 2 main parts as follows:

1. Evaluation of the financial management work of non-business units established
2. Solutions to improve the financial management of public non-business units in the context of implementing financial autonomy

Content:

## 1. EVALUATION OF THE FINANCIAL MANAGEMENT WORK OF NON-BUSINESS UNITS ESTABLISHED

Financial management Public non-business unit is the process of planning, organizing, implementing, controlling and making decisions, regulating the process of creating and using financial resources and monetary funds in order to achieve operational objectives of the public non-

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business units. Financial management public non-business units covering the selection and making of financial decisions; organizing the implementation of financial decisions; financial control and decision-making. Financial management must ensure that financial decisions are associated with the process of creating and using financial resources and monetary funds of the entity in order to achieve the objectives of the established strategy and operational plan.

Currently, in order to further promote the implementation of autonomy of public non-business units, on June 21, 2021, the government issued Decree 60/2021/ND-CP stipulating the financial autonomy mechanism of the public non-business units replacing Decree 16/2015/ND-CP, whereby notable innovations are new and more detailed regulations on the classification of financial autonomy; financial resources and use of financial resources; financial autonomy and granting autonomy to public non-business units, etc. At the same time, the government has issued Decree 150/2020/ND-CP on converting public non-business units into joint stock companies, clearly stipulating the conditions for converting public non-business units into joint-stock companies and Decision No. 26/2021/QD-TTG stipulate the list of industries and fields in which the conversion of high quality units into joint stock companies is carried out. On that basis, ministries and branches have implemented through legal documents with full and detailed instructions.

In that context, it is really necessary to innovate the management method of public non-business units in order to contribute to promoting social work. Socialize public service units, mobilize social resources, and provide high-quality products and services to meet social requirements.

***The financial management of Public non-business units in recent years has achieved certain results:***

*Regarding financial planning:* Public non-business units make financial plans according to the guiding documents of the managing ministries, the planning according to the process, with the participation of members in the unit.

*Regarding organization and implementation of financial plans:* Public non-business units develop the internal expenses regulations associated with spending norms, develop regulations on asset management and use, develop processes and organizations procurement of assets in accordance with the process, comply with legal documents on management and use of assets. The process of distributing operational results is carried out in accordance with regulations and used for the right purposes. With each different degree of autonomy, the units have made positive changes in the exploitation of revenues.

*Financial control and decision-making:* Financial self-inspection and accounting are organized into a specialized department under the direct control of the head of the unit. The internal key is done strictly according to the instructions. Public non-business units shall establish a complete system of financial statements and final settlement reports in accordance with current regulations. Many units have built a number of reports to serve internal management requirements, providing financial information on management software to evaluate the results of activities.

***In addition to the achieved results, the financial management of public non-business units still has many difficulties, obstacles, and certain limitations as follows:***

*About financial planning:* Financial planning has not been focused, still heavily formal. The units have only made short-term financial plans, and have

not paid much attention to strategic long-term planning, so they have not shown clearly and fully according to the modern management model. In fact, the use of planning based on the past also limits the development of revenue and expenditure initiatives to achieve short-term and long-term goals. The forecasting method of most units is not suitable, it is also calculated on the average growth rate, based on feelings, so the estimation of revenue as well as the demand for expenditure of the unit is not high accuracy, not close to reality. In general, Public non-business units only base on the reality of this year to set higher plans for the next year, but have not really analyzed and forecasted financial systematically. Prioritizing decisions in developing unit development strategies that are still not consistent with reality also affect the efficiency of resource allocation and use, financial analysis has not been performed scientifically. The units currently do not plan with cash capital and receivables, have not studied and applied models to determine the optimal reserve, and have not focused on planning unit capital develop a methodical capital plan, build an optimal capital structure according to the degree of autonomy of each unit.

*Regarding the organization and implementation of financial plans:* Most of the public non-business units currently have not performed analysis of liabilities and provision for receivables. The management and use of assets participating in joint venture activities at the unit has not been fully and strictly implemented. The units have not fully calculated the costs, especially the cost of depreciation/amortization of assets. In addition, the distribution of performance results has not yet encouraged staff to work and dedicate, the setting up of funds for development of professional activities of investment nature in units has not seen any positive changes. Because it also depends on the annual financial results and the trend of prioritizing deductions for income supplementary funds and reward funds of a consumer nature.

*Regarding financial control and decision-making:* The understanding and application of “*Internal control*” and “*internal audit*” in public non-business units are still fuzzy. The effective use of assets is not high because the units have not developed standards to check and evaluate the assets of the unit, and have not paid much attention to the inventory of assets.

The inspection and control of revenue and expenses of the unit are not tight and effective; have not focused on building a cost management accounting reporting system. Most of the units have not implemented analytical tools for accounting reports to show the structure of capital assets in order to evaluate and analyze the efficiency of using capital assets; did not focus on analyzing fluctuations in revenue, expenses, financial results, and distribution of financial results.

The above limitations stem from both objective and subjective reasons such as the legal framework is not comprehensive and synchronous; the construction and approval of the list, economic and technical norms as a basis for setting service prices still have many problems; The financial management capacity of the public non-business units is still limited, the organizational and governance structure of the unit is not appropriate, the internal financial management tools are not really effective. The public non-business units lack an information system to support decision-making, etc.

It can be seen that, on the basis of an assessment of the current situation of financial management of public non-business units in the past time, along with the process of implementing financial autonomy or implementing equalization of public non-business units. In the current situation, it is really necessary to improve the financial management capacity of public non-business units in order to enhance governance efficiency and operational efficiency, thereby increasing the

competitiveness of public non-business units position and improving the quality of service delivery to society.

## **2. SOLUTIONS TO IMPROVE THE FINANCIAL MANAGEMENT OF PUBLIC NON-BUSINESS UNITS IN THE CONTEXT OF IMPLEMENTING FINANCIAL AUTONOMY**

*Firstly, the general financial planning needs to focus on achieving sustainable growth of the public non-business units and proactively develop a detailed plan of the assets and capital sources of the public non-business units.*

Financial planning is the first step for public non-business units to implement, in order to ensure effective financial management. Therefore, units need to organize the planning well, especially the proper awareness of the importance of financial planning. The development of a financial plan in which it is necessary to establish a relationship between the unit growth target and the unit financial resource needs. Each unit needs to systematically evaluate the results and operation situation over the past time, on that basis, proactively redefine its mission, vision, and core values in the trend of autonomy, to develop a strategy for unit development, this process must be attended and understood by all units, individuals, party organizations and mass organizations in the public non-business units. This is a prerequisite for implementing practical and effective financial planning, clearly and fully reflected in the modern management model.

In order to perfect financial planning to help public non-business units take the initiative in their operation when developing a plan, the unit needs to make a plan for each level of activity (flexible estimate). With this type of estimate, the units can determine the costs corresponding to different levels of activity in the current input condition of fluctuating service prices. Public non-business units need to have a strong transition from management in general, and financial management of the unit in particular based on input to management based on output and results, and perform well in the construction of business plans financial planning associated with service delivery goals, prioritizing the allocation of financial resources, and determining revenue and expenditure balance. Therefore, it is necessary to combine the planning method based on the past and the method not based on the past. On that basis, a flexible construction revenue plan is determined by the volume of completed services to meet the practical context of the public service pricing roadmap, socio-economic fluctuations, epidemics, etc.

*Some requirements for financial planning:*

- The financial plan is closely linked with the development strategy and operation plan of the unit, in order to ensure the implementation of the planned objectives with financial resources.

- Revenue and expenses must be actively balanced on the basis of maximizing revenue sources to ensure the unit's spending needs.

- The financial plan clearly shows the priority of resource allocation according to the order of priority of the objectives in the unit's operating plan. Investment activities to innovate service provision should follow the general development strategy of the industry, on the basis of considering actual needs, financial capacity, supply capacity of the unit itself, and the demand for products, actual products, and services. From there, develop a long-term financial plan with synchronous investment activities, and a roadmap of activities to be carried out, including the priority order of specific plans.



- The allocation and use of financial resources should be strategic. A financial plan should be made within a medium and long-term framework of 3 to 5 years, on which an annual financial plan is developed concretizing the plan of assets, capital sources, revenues, costs, and results. Financial results in a year to ensure implementation of specific objectives. At the same time, financial plans need to be linked systematically and comprehensively in terms of assets, capital sources, revenue, costs, and financial results.

- The financial plan should be built on the basis of reliable, scientific data and with the participation of stakeholders.

The unit asset planning needs to be paid more attention to, the cash reserve plan and the unit cash flow plan from there to make appropriate decisions to ensure solvency; It is necessary to flexibly apply payment methods, determine an appropriate level of inventory on the basis of applying scientific money management measures like businesses, not just based on current experience. Besides, depending on the service provided, the units can make provisions for receivable debts according to the legal framework prescribed by the state.

Currently, the asset management capabilities of most public non-business units are still limited. In the context of self-reliance, public non-business units need to be self-sufficient in investment resources to purchase fixed assets to serve the needs of public administrative service provision and self-manage use unit assets. For that reason, the most important issue for public non-business units is how to plan to ensure capital investment in assets and ensure investment efficiency. In particular, at the stage of asset planning, the public non-business unit needs to effectively perform 3 steps: (i) determine the need for asset investment; (ii) identify funding sources and asset creation methods; (iii) develop a plan, implement property investment.

Parallel to the asset planning process, public non-business units need to actively plan their capital sources by assessing where the percentage of assets forming the unit mainly comes from, thereby evaluating the ability as well as the position of public non-business units to make appropriate governance decisions. From a long-term perspective, public non-business units that are self-sufficient in all recurrent and investment expenditures, and public non-business units that are fully autonomous in recurrent expenditures need to consider a reasonable capital structure, in terms of capital structure. With long-term assets that need to be financed by medium- and long-term sources of the public non-business unit and vice versa to minimize the imbalance of cash flow of public non-business units.

***Secondly, finalize cost norms and unit cost plans.***

Setting norms in the internal expenses regulations should ensure that the public non-business units can fulfill their assigned functions and tasks, and carry out regular activities in accordance with the specificity of the professional field, but while still ensuring the effective use of financial resources, strengthening the financial management of the unit. Principles of regulations-building must prioritize professional expenses to ensure quality, save administrative and organizational expenses, and implement a reasonable and effective division of labor. In addition, in order to have a basis for developing services and expanding revenue sources, public non-business units need to actively develop basic economic and technical norms to serve their professional activities.

***Thirdly, well organize the implementation of the plan of assets and capital sources, develop a mechanism of asset management and use in accordance with the development requirements of the unit.***

Public non-business units actively build and manage norms on cash balance, deposits as well as receivables and payables of the unit. On the basis of proactively planning the annual cash flow, the unit needs to closely manage cash receipts and payments, and advances, implement the annual cash flow plan to ensure balance cash receipts and expenditures, effectively use temporarily idle cash, forecast and effectively manage cash inflows and outflows in each period of the year in order to proactively meet payment requirements payables to suppliers when due.

In order to achieve the objectives of preserving and developing the assets of the unit, preventing loss and waste of assets, on the basis of when the state promulgates a document providing guidance on provisioning for receivables, the provision for devaluation of inventories, research units develop a mechanism for setting up these provisions for themselves.

In the process of purchasing and using fixed assets, public Non-business units need to balance with assigned tasks and developed plans. In particular, it is necessary to clearly understand the regulations on calculating depreciation and amortization of fixed assets formed from sources and used for the activities that the unit performs properly, to serve the inspection, supervision, and assistance determine service costs for accurate service cost calculation; implement amortization and depreciation calculation with assets used simultaneously for both administrative and non-business activities, service provision activities, joint venture leasing, etc. Public non-business units need to continue to improve asset management regulations so that asset management tools achieve the highest efficiency when applied in practice. In which, the unit needs to issue the procedures in the form of tables with explanations of each convenient step in the implementation process.

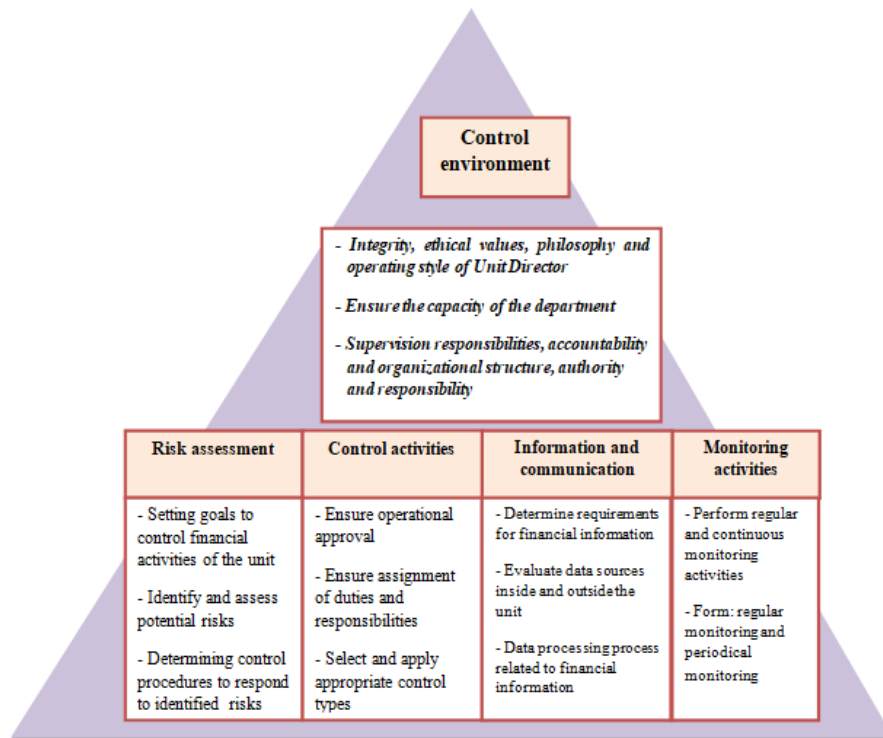
***Fourthly, will solve the effective and fair relationship in the distribution of operating results and income distribution on the basis of the results of task performance, and the dedication of the staff, of each department in the organization unit.***

Public non-business units need to develop a set of criteria to evaluate the capacity and performance results of officials and employees, of each department within the unit, on the basis of the nature of each specific type of work can be measured in order to come up with a distribution plan and adjust the plan to spend additional income in line with the capacity of members and departments. These criteria should be relevant, specific, measurable, and geared toward task performance rather than input and compliance criteria. At the same time, customer satisfaction should also be considered an important criterion for evaluation. With this set of criteria, the public service unit can determine the weight when scoring and classifying, the classification results are the basis for implementing the distribution policy. Public non-business units need to properly organize an annual emulation review based on a system of criteria for assessing the capacity and dedication of each staff member and department to determine the level of the performance distribution. Depending on the level of development and characteristics of each unit, it is possible to research and put a KPI evaluation system (Key Performance Indicator - indicator system to measure the success of a job) with appropriate indicators to evaluate the operations and staff management.

***Fifth, perfect the internal control system of public non-business units.***

It can be seen that building an internal control system in the current context is extremely necessary for public non-business units, in order to increase the ability to forecast, evaluate, prevent and effectively manage. Risks in public non-business units need to continue to study the role as well as how to build and implement the internal control system, towards the formation

of an internal control department with sufficient capacity and experience to operate effectively results, ensuring high feasibility. To be effective, public non-business units need to have specific regulations on building and guiding the implementation of an effective and efficient internal control system associated with the evaluation function as well as risk management of the entity, ensuring the complete and complete completion of 5 elements constituting internal control of the unit.



**Figure 1: Internal control factors at public non-business units**

*(The team of modeling authors)*

***Sixth, perfect the management accounting reporting system in the public non-business units, using financial analysis tools in the financial management of the public non-business units.***

The construction and design of a management reporting system based on the unit’s activities to serve the internal management of the current public non-business units. On the basis of the information needs of managers, management accounting reports must be designed in accordance with the cost objects and purposes of the managers. However, when building a management accounting report, it is necessary to ensure that a detailed recording of expenses incurred by each object is required. In addition, in order to ensure that the report is meaningful and that it does not waste time and cost for making the report, the indicators on the report must be meaningful. Periodically, monthly, quarterly, and annually, it is necessary to prepare reports to evaluate the activities of the divisions. If this reporting system is successfully built, the unit administrator can accurately and timely recognize the unit’s operation situation, thereby evaluating, making the right decisions, making adjustments, and bringing the best results with high efficiency.

In order to assess the financial capacity and trends of financial activities of the unit, the public non-business units organize the analysis in a methodical and scientific way and develop a full analytical process. It includes steps from the preparation of the analysis, the conduct of the

analysis, and the completion of the analysis. The unit needs to develop financial statement analysis criteria, and flexibly use a combination of analytical methods with the goal of helping the head of the unit to grasp the past financial situation and predict the future, cash flow balance, capital mobilization, investment, etc.

## CONCLUSION

The above are groups of basic and important solutions to improve the financial management of current public non-business units. Each group of solutions needs to be implemented in each specific condition and in a certain period in accordance with the characteristics of service provision of each type of public non-business unit. At the same time, in order for the solutions to be effective, in addition to the efforts of the public non-business units themselves, it is necessary to have the support and orientation of the government and state management agencies to improve the quality of life improve the legal environment, create conditions for perfecting the financial management of public non-business units, improving governance capacity associated with financial autonomy of public non-business units according to the direction of the state.

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# GREEN PUBLIC PROCUREMENT FOR THE SUSTAINABLE DEVELOPMENT: LESSONS LEARNED FROM JAPAN AND THE REPUBLIC OF KOREA

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**Abstract:** *In numerous nations across the world, the largest proportion of total national purchasing is comprised of public procurement. Therefore, public procurement can contribute significantly to the nation's sustainable development. Green public procurement (GPP) is not a novel concept in developed nations because the green public finance framework has been in place for more than 20 years. However, GPP is a relatively new practice in developing nations. Nowadays, in the context of climate change, governments have to consider the environmental costs associated with their purchases and GPP can be a useful tool for promoting sustainable development. By implementing GPP, the government will be the leader of the economy in achieving sustainable growth by expanding the market share of enterprises with a strong commitment to environmental protection. The purpose of this paper is to provide lessons learned from the GPP implementation in Japan and the Republic of Korea. Then, the authors would like to propose several recommendations to promote GPP in Vietnam.*

**Keywords:** *green public procurement, public procurement, sustainable development, green procurement.*

## 1. INTRODUCTION

Public procurement offers governments a potent instrument for achieving their development goals. The global value of public procurement is estimated to be approximately \$11 trillion, or 12 percent of global GDP (The World Bank, 2021). In many developing nations, the government is the largest buyer for a variety of product and service categories. Green public procurement (GPP) utilizes the purchasing power of the public sector to achieve sustainable development objectives.

In the EU, the European Commission has made many efforts and activities to promote the implementation of GPP in the member countries, including the implementation of research/projects, promulgating of policies, and developing the standards of production and consumption (European Commission, 2016). GPP in the United States was established and implemented in several Federal green procurement programs, in which authorities are required to consider environmental impacts, cost, and other factors. of a product before making a purchasing decision. Under the Federal procurement regulations and Government Greening Ordinance 13101, all government agencies must undertake the procurement of products with recycled ingredients to encourage the use of

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recycled materials (The President, 1998). In South Korea, the government does not set quantitative targets related to green public procurement, but each state agency must set its voluntary target (e.g. estimated amount of green purchases and percentage of green purchases about the total purchases of the year) and report it to the Ministry of Environment. The products and services applicable for green public procurement were defined by the Act of 2005 as (i) certified or meeting the underlying criteria set by the Korea Eco-label; (ii) certified or meeting the criteria of the quality certificate for recycled products (Good Recycled Mark); (iii) complying with other environmental criteria set by the Ministry of Environment following consultation with the heads of the relevant ministries. According to the Act of 2005, state agencies should purchase green products and services for which the eco-label criteria exist (OECD, 2014).

In this paper, we would like to build the fundamental of GPP, including the definition, the process of GPP, and successful cases of GPP implementation in Japan and the Republic of Korea. Then, we will clarify the lessons learned for Vietnam to establish the GPP framework. The paper includes five main parts, including part 1 as the introduction, part 2 as the literature review, part 3 as the methodology, part 4 with research results, and part 5 presents the conclusion.

## **2. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES**

### ***Green public procurement***

Green public procurement (GPP) is defined as “*a process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life-cycle when compared to goods, services and works with the same primary function that would otherwise be procured.*” (European Commission, 2016). According to the research of Bugge and Voigt (2008), GPP can be also considered as when public institutions procure goods and services, they consider environmental costs and benefits throughout a product’s life cycle to promote sustainable consumption and production. The life cycle of a product consists of the extraction of raw materials, production and manufacturing, packaging, distribution, use, and disposal. Throughout a product’s life cycle, externalities arise that current purchase prices do not reflect. Indirect supply chain costs, such as environmental externalities, are not incorporated into purchase prices. In its most comprehensive form, life-cycle costing (LCC) attempts to quantify and value these externalities. GPP, which can utilize LCC tools, aims to serve as an effective tool for environmental regulation and an alternative form of environmental governance beyond the traditional public law model. GPP enables public institutions to establish both public and private markets for more environmentally friendly goods, creating a model for environmental advancement that bridges the gap between traditional environmental law and private environmental governance.

### ***Green public procurement and the national sustainable development***

Sustainable development is defined as “*development that meets the needs of the present without compromising the ability of future generations to meet their own needs*” (World Commission on Environment and Development, 1987). The 2030 Sustainable Development Goals (SDGs) have positioned sustainability at the forefront of the development agenda. Member states have committed to “ensure sustainable consumption and production patterns” (SDG 12) and “promote sustainable public procurement practices consistent with national policies and priorities” (SDG target 12.7).

Sustainable public procurement is “*a process whereby public organizations meet their needs for goods, services, works, and utilities in a way that achieves value for money on a whole life-cycle basis in terms of generating benefits not only to the organization, but also to society and the economy, whilst minimizing damage to the environment*” (UNEP, 2011). The focus of sustainable public procurement shifts from seeking the lowest cost to achieving value for money. It uses the procurement function strategically to achieve policy objectives linked to the economic, environmental, and social pillars of sustainable development. Typically, SPP systems are intended to achieve the following objectives: promotion of green growth; environmental protection; development of small and medium-sized enterprises; promotion of minority and women-owned businesses; innovation; standards for responsible business conduct; and broader industrial policy objectives.

GPP is a component of sustainable public procurement that employs public sector purchasing to achieve environmental policy goals. In the past decade, GPP has shifted from a “do less harm” approach to a more proactive one in which public procurement is used to achieve specific environmental goals. GPP is an essential instrument for promoting the use of greener products and services by government agencies. It can also serve a broader development function by assisting governments in achieving their environmental policy objectives, such as reducing pollution, enhancing resource efficiency, promoting more sustainable production and consumption, halting biodiversity loss, enhancing resilience, and reducing the emission of greenhouse gases that contribute to climate change.

### **3. METHODOLOGY AND PROPOSED MODEL**

In this paper, we employ a qualitative research method to study the experiences of the developed countries which have been applying the GPP framework successfully. The case study method is applied to analyze the regulations and processes to implement GPP in several chosen countries. Case study research enables the exploration and comprehension of the GPP implementation via reports of past studies. It is a reliable research method, especially when a comprehensive, in-depth investigation is required. Recognized as a tool in numerous social science studies, the importance of the case study method in research increases when matters regarding community-based problems, such as poverty, unemployment, environmental issues, etc., are raised (Johnson, 2006). Data about the GPP implementation of the chosen developed countries is collected from the reports of the World Bank and OECD.

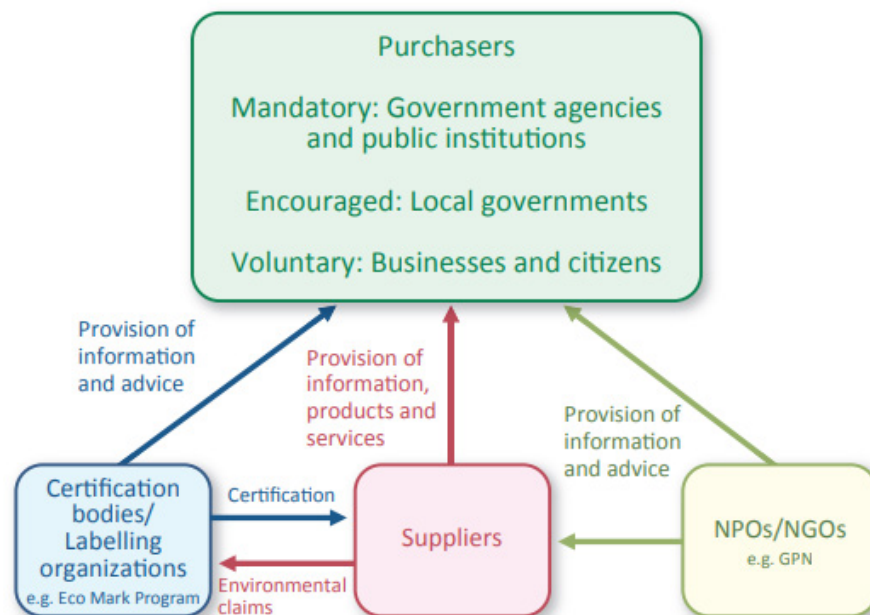
## **4. RESEARCH RESULTS**

### **4.2. The practice of green public procurement in Japan**

The green purchasing movement in Japan dates back to the late 1980s. The Eco Mark Program was introduced as a Type I environmental labeling scheme in 1989. In 1994, a local government began promoting its green purchasing initiatives. Then, in 1996, a non-profit organization, Green Purchasing Network, was established to support green purchasing activities across the nation. To expand the market for environmentally friendly products, the Japanese government enacted the Act on Promotion of Procurement of Eco-Friendly Goods and Services by the State and Other

Entities (Act on Promoting Green Purchasing) in 2001. 2007 also saw the enactment of the Law Concerning the Promotion of Contracts Considering Reduction of GHG Emissions by the State and Other Entities (Green Contract Law). This law specifies the green contracting requirements for government agencies and public institutions in purchasing contracts for electricity, automobiles, and energy service company projects. Although the Green Contract Law is more focused on the GHG reduction aspect of specific products and services, it complements the Act on Promoting Green Purchasing in establishing the legal framework for green public procurement in Japan.

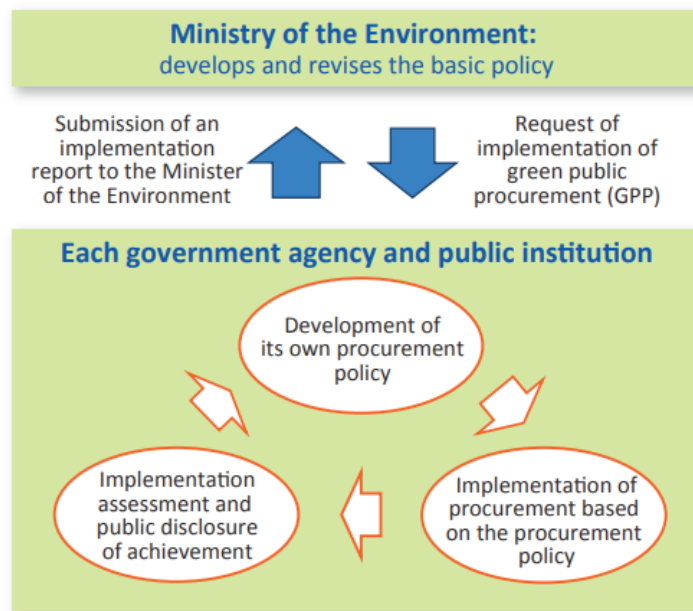
In 2016, the Japanese government issued “Introduction to Green Purchasing Legislation in Japan” which illustrated the guidance on practicing GPP. The document was prepared by the Ministry of the Environment of Japan to promote national green purchasing and it was also called the Act on Promoting Green Purchasing. The purpose of the Act on Promoting Green Purchasing is also to create a society with fewer sustainable environmental impacts. The Act requires that all government agencies and public institutions implement green public procurement (GPP) for specified procurement items (Figure 1). The Ministry of the Environment is responsible for developing the fundamental policy of the Act, including evaluation criteria for each item designated for procurement. Each government agency and public institution shall establish its procurement policy and goal by the fundamental policy and annually report its accomplishment to the Minister of the Environment (Figure 2). The basic policy on GPP will be annually revised by the Ministry of the Environment and other Ministries and experts. However, the Ministry of Environment will play the main role on establish the forms for reviewing the evaluation criteria and other relevant topics. The scholars attend the Reviewing Committee and the technical committees consist of specialists and different stakeholders such as industry associations.



**Figure 1: Roles of stakeholders in green purchasing in Japan**

*Source: Japanese Government (2016)*





**Figure 2. Implementation of green public procurement in Japan**

*Source: Japanese Government (2016)*

The Japanese government utilizes standard metrics to assess the environmental impact of 19 of 270 product categories. A “typical” green product is defined for each category based on the minimum green specifications outlined in the GPP policy. The environmental benefits are estimated as a reduction in greenhouse gas (GHG) emissions expressed as CO2 equivalents. For products that consume energy or influence energy consumption, emissions are estimated based on energy consumption during the use phase for a certain number of years, depending on the product and emissions factors of the energy source used. The environmental specification for products that do not consume energy (such as stationery or textiles) is translated into estimated CO2-equivalent emissions. The benefits are then determined by comparing the GPP level of the year to the market share of green products in 2000, the year preceding the implementation of the Act (obtained from data by the industry).

**Table 1: List of categories for designated procurement items as of February 2016**

1	Paper	8	Home electronic appliances (TVs, microwave ovens, etc.)	15	Interior fixtures and bedding (carpets, curtains, etc.)
2	Stationery	9	Air conditioners, etc.	16	Work gloves
3	Office furniture, etc	10	Water heaters, etc. (electric water supply system, gas water heaters, etc.)	17	Other fiber products
4	Imaging equipment, etc	11	Lighting (lamps, LEDs, etc.)	18	Facilities (solar panels, solar thermal appliances, etc.)
5	Computers, etc.	12	Vehicles, etc. (vehicles, tires, engine oil)	19	Stockpiles for disaster
6	Office equipment, etc.	13	Fire extinguishers	20	Public works projects
7	Mobile telephones, etc.	14	Uniforms and work clothes	21	Services (printing, transportation, delivery, etc.)

*Source: Japanese Government (2016)*

GPP program which was launched by the Japanese government contributed significantly to the green market development. For example, Japan's public purchasers were instrumental in establishing a market for electric vehicles. In 2010, Nissan introduced the Leaf, the world's first mass-produced electric vehicle. During the early years of production, local governments purchased the majority of units (UNESCAP, 2012). In the year following the vehicle's introduction, nearly half of the 619 charging stations were installed on municipal property (with the remaining stations located on the grounds of companies that promoted electric vehicles). With this early government support, Nissan improved its technology by developing a quick charging unit that was smaller, less expensive, and easier to install. Nissan then installed these new charging units in various locations in Japan. Regular consumer sales soared. Local governments continue to support the installation of fast-charging stations, installing one every 15 kilometers across the country.

#### 4.2. Green public procurement implementation in the Republic of Korea

Since the 1990s, the Republic of Korea has implemented Sustainable Consumption and Production (SCP) policies to support sustainable and resource-efficient production practices. Globally, the GPP policy of the Republic of Korea (the Act on Promotion of Purchase of Green Products, 2005) is recognized as a model of best practice. Consistent with early GPP policies adopted in Europe and North America, the Republic of Korea's GPP policy places a strong emphasis on supporting SCP by expanding the market for eco-labeled products in response to public demand. The policy mandates that all government agencies, from the central to the local level, as well as public corporations, public institutes, and public education institutions, submit an annual GPP implementation plan in which each organization establishes its voluntary target and a performance report on the number of green products purchased. The Ministry of Environment is responsible for the overall management of GPP implementation at the national level; the Public Procurement Service operates the online procurement system; and the Korea Environmental Industry and Technology Institute (KEITI) plays a central role in awareness-raising, monitoring, and evaluation.

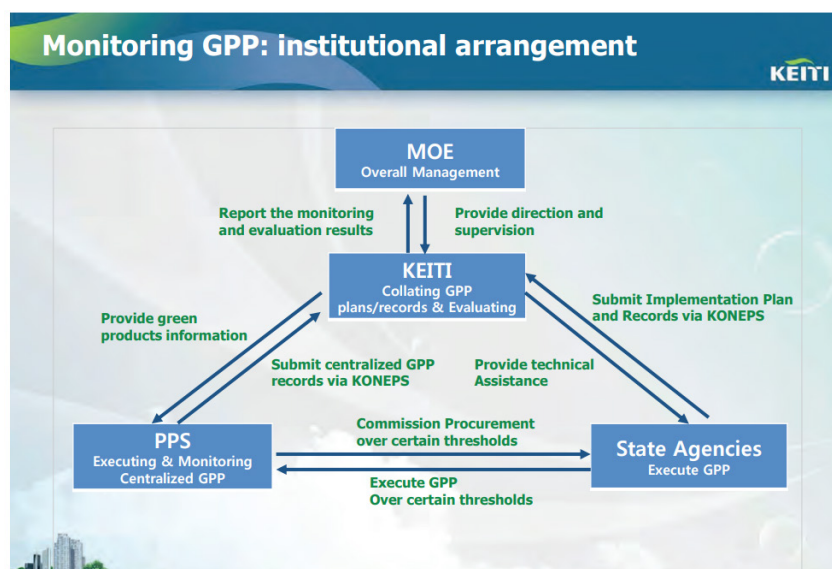


Figure 3. Institutional Framework for GPP Implementation in the Republic of Korea

Source: UNEP and KEITI (2019)

Several initiatives were launched by the Ministry of Environment in collaboration with the KEITI and the Korean Public Procurement Services (PPS) to ensure the successful implementation of green public procurement. Among the most notable is the development of green public procurement guidelines based on ecolabelling criteria, the establishment of a “Green Products Information Platform” (GPIP) for purchasers, and the establishment of a nationwide online monitoring system that has helped guide successful implementation. For instance, in the Republic of Korea, public institutions and local governments receive annual performance bonuses based on the extent to which they practice GPP (UNEP and KEITI 2019).

**Table 2: Responsibilities in GPP implementation**

Governing Institution	Responsibilities
The Ministry of Environment (MoE)	<ul style="list-style-type: none"> <li>• Overall management of the GPP policy, the definition of strategic goals and priorities;</li> <li>• Establishment and monitoring of regular five-year action plans for the deployment of the Act.</li> </ul>
Public Procurement Service (PPS)	<ul style="list-style-type: none"> <li>• Operation of the Korean Online E-Procurement System (KONEPS) to facilitate the actual purchase of green products;</li> <li>• Compilation of procurement records of public institutions;</li> <li>• Communication of green products information provided by KEITI to public institutions.</li> </ul>
Korea Environmental Industry and Technology Institute (KEITI)	<ul style="list-style-type: none"> <li>• The central role in GPP Implementation;</li> <li>• Management of the Green Procurement Information System and the Green Product Information System;</li> <li>• Provision of education and awareness-raising on GPP;</li> <li>• Monitoring and evaluation of GPP records and performance;</li> <li>• Transfer of know-how both nationally and internationally;</li> <li>• Cooperation with stakeholders including other ministries, NGOs, research institutes, and businesses.</li> </ul>
Public institutions	<ul style="list-style-type: none"> <li>• Development of an annual implementation plan with voluntary targets for GPP and institutionalization of GPP in their organization;</li> <li>• Monitoring and reporting of green purchase records to MoE annually;</li> <li>• Designation of a Green Procurement Official within their organization (since 2013).</li> </ul>

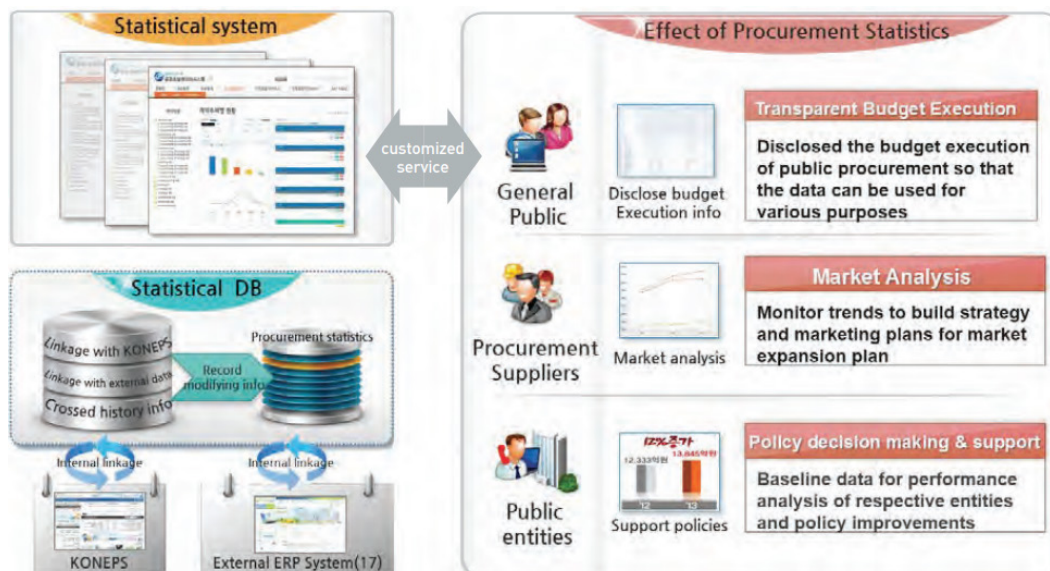
*Source: UNEP and KEITI (2019)*

Using its GPS-I online monitoring system, the government of the Republic of Korea monitors GPP implementation across 30,000 procuring entities. The system monitors two key GPP indicators: the number of agencies submitting GPP implementation plans and performance reports, and purchases of green products (units and expenditure on eco-labeled products, proportion of green purchases relative to total expenditure in priority product groups). GPS-I collects data from three distinct data sources: central government procurement through the Republic of Korea’s e-procurement system (KONEPS), which is compiled monthly in an Excel file and integrated into GPIS-I; low-volume purchases through the country’s e-shopping mall “Green Market,” which are automatically tracked and transferred to GPIS-I; and direct procurement by entities using their

systems, which is tracked by each entity and manually input into GPIS-I. Through their online accounting systems, the federal government, local governments, and public education authorities now produce annual procurement records that can be directly integrated into GPIS-I. (UNEP and KEITI 2019).

In addition, the Republic of Korea has two national ecolabels: the Korea Ecolabel, which is administered by the Ministry of Environment, and the Good Recycled Mark, which is administered by the Ministry of Trade, Industry, and Energy. The online Green Product Information System of the Republic of Korea lists more than 100 environmental certifications and ecolabels in the Republic of Korea and internationally, providing an evaluation of each ecolabel that includes its country of origin, applicable goods and services, environmental benefits, factors considered in the life-cycle evaluation, and transparency of information disclosure.

In 2014, the Public Procurement Data System was launched to enable a precise analysis of the implementation of procurement policy. The Public Procurement Data System enables the collection of all procurement data from KONEPS and 24 external e-procurement systems utilized by public enterprises and specialized entities, as well as the generation of 102 data reports (UNEP and KEITI, 2019). Publicly accessible datasets include both real-time and time-series data. The system enables public entities to analyze outcomes and enhance performance, as well as increase spending transparency and track market trends.



**Figure 4. Components of the Korean Public Procurement Data System**

*Source: UNEP and KEITI (2019)*

## 5. DISCUSSION AND CONCLUSION

From the experiences of Japan and the Republic of Korea in promoting GPP, the authors would like to draw several recommendations which contribute to the GPP implementation in Vietnam, detailed below:

*Firstly, Establish the framework to implement GPP with the central role belonging to the Ministry of Environment:* In Japan and the Republic of Korea, the Ministry of Environment is in

charge of building the Acts and laws for GPP in each country as well as the impact indicators to assess this operation. The Ministry of Environment will develop a master plan for promoting the purchase of green products, outlining a variety of policies aimed at promoting green production, distribution, and consumption. In addition, the introduction of eco-friendly products that reflect technological advancements to meet national environmental goals or standards has fueled the growth of the green market. Then, these policies are implemented in diverse environmental sectors, including air, water, and waste. Most importantly, policy objectives include social benefits in addition to economic and environmental ones. And the GPP policy should be reviewed periodically to incorporate the latest research on technical trends, legislation, and standards. Through this process, the number of prioritized products and service categories with evaluation criteria.

*Secondly, Promulgate the list of goods and services having to be in the GPP program. Establish Vietnamese own national eco-labels and certification programs.* Public sector entities, such as a sector ministry or standards authority, an industry association, or a third party may establish ecolabels. The goods and services should be investigated clearly and obviously to ensure that they qualify the requirements of green production. Following the list, the government can assess and review the process of public procurement to support sustainable development. Ecolabels allow procurers to identify green products or services without having to apply environmental criteria or undertake assessments of the environmental impacts of those products and services.

*Thirdly, Launch the GPP initiatives to supplement and facilitate the transition of the business community to green business practices.* The purpose of these initiatives is to increase the availability and variety of environmentally friendly products and services on the market and discourage, and in some cases prohibit, business practices with negative environmental impacts. Increased competition promotes innovation and drives down prices, thereby increasing the availability of green business practices. Public procurement of green products will expand the market, pushing market share closer to a tipping point where prices become competitive and there is a strong consumer preference for purchasing green products. Governments can support green market development by providing information, capacity building, financing, and fiscal incentives and using regulations to mandate how businesses operate.

*Fourthly, Attract the different stakeholders to support GPP reforms, those likely to resist, and their motivations.* Stakeholders consist of all parties who may be impacted by the implementation of GPP reforms, typically including government policymakers, management, and staff of procuring entities, procurement professionals, private sector suppliers and contractors, households, and civil society organizations. Understanding the landscape of stakeholders will aid those leading GPP reforms in identifying opportunities, anticipating resistance, and preparing a response. The interests, perceptions, and values of stakeholders can be ascertained through online surveys, interviews, and consultative groups. Focus groups with particular stakeholders offer the chance to investigate their perceptions and concerns in depth. The mapping of stakeholders can identify potential GPP champions: those who have the motivation, ability, and authority to drive a change in procurement culture.

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# DERIVATIVES MARKET DEVELOPMENT MODEL TOWARDS SUSTAINABLE DEVELOPMENT

PhD. Cao Minh Tiến<sup>1</sup>

**Abstract:** *In recent years, the trend of promoting the transformation of a sustainable and inclusive economic model in the financial sector has become more and more positive, along with the contribution of all parties from the Government, regulatory agencies, investors, and society. The financial market is the core market for designing and trading new products, and the Stock Exchanges must be the center that changes to adapt to the goals of sustainable development. Therefore, completing the derivatives market model towards sustainable development is a massive concern to achieve the goal of sustainable development of the market economy in the context of globalization.*

**Key Words:** *development model, derivative securities, development*

**Từ khóa:** *mô hình phát triển, chứng khoán phái sinh, phát triển*

## 1. INTRODUCTION

Since the implementation of the United Nations' Sustainable Development Goals (SDGs) in 2015, the integration of environmental and social sustainability into global production chains as well as international trade and investment activities have become mainstream. Climate change is perhaps the best example of existential risk. Although much progress has been made to reduce emissions, the increase in extreme weather phenomenon is also one of the causes of catastrophic events in the eco, social, and economic systems. In 2020, the COVID-19 pandemic has increased awareness of the impact of human activities on the destruction of natural habitats, placing greater emphasis on environmental and social sustainability as well as increasing resources that are necessary for sustainable development. UNCTAD4 estimates that developing countries need an invest about \$ 2.5 trillion per year to meet the sustainable development goals. To achieve this, need to have a sustainable financial system, sustainable finance refers to the process of considering environmental, social, and governance (ESG) factors when making investment decisions in activities and economic projects towards sustainable development.

The world's derivatives trading market has been growing for many years. With the primary goal is hedging, derivatives products have become indispensable tools in a capital market economy with many unpredictable fluctuations, along with the ability to use financial leverage makes derivative securities products more attractive to investors. In Vietnam, the derivatives market was

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established and officially put into operation in August 2017 at the Hanoi Stock Exchange. This event is considered important for Vietnam's stock market when operating all kinds of markets with high transparency and professionalism.

The derivatives market in Vietnam was officially born and put into operation, not only creating a risk protection tool for investors but also opening up a new form of investment for the investment public, serving as a service for the development of the country, contributing to the improvement of the financial market system in general and the synchronous creation of the constituent elements of the Vietnamese stock market in particular. The derivatives market in Vietnam is a market organized and managed by a State management agency. The legal basis for operating the derivatives market has been relatively fully promulgated by the Government, the Ministry of Finance, the State Securities Commission, and related agencies. The legitimate rights and interests of the participants in the derivatives market are guaranteed. Therefore, investors' risks when participating in transactions are minimized. However, the size of the derivatives market is still small, the goods on the market are not diverse, the number of investors participating in the market is still small, and the legal document system is not consistent. There are still many overlaps, and the development model of the derivatives market has many shortcomings, which is causing a reticence for investors to participate in the derivatives market. Therefore, it is very necessary to study to perfect the derivatives market model in the direction of sustainable development in the context of globalization and post Covid-19 economic recovery.

## **2. SOME THEORETICAL PROBLEMS**

The derivatives market model includes the market organization model, trading model, membership model, clearing model, and supervisory model.

### **2.1 Model of market organization**

The centralized derivatives market is the Exchange, and the Derivatives Exchange is the place where derivatives transactions take place. Nowadays, the operating model of the Derivatives Exchange can be self-regulatory organizations (SROs) or organizations managed by a State agency (Government). There are many similarities in the regulations of the derivatives exchanges and legal organizations, but there are also many differences. That is the difference in the organization and operation of the derivatives market, the relationship between the Derivatives Stock Exchange and the Basic Stock Exchange, they can be two completely separate organizations or the same organization. In addition to the structure of the clearinghouse, in some countries, the clearinghouse is a subsidiary of the Derivatives Stock Exchange or a separate organization. Some centralize clearing for only one exchange while some provide clearing services for multiple Stock Exchanges. There are two models of centralized derivative securities market organization in the world:

Model 1: Derivatives Stock Exchange is separate from the Basic Stock Exchange

Case in Taiwan market: The Derivatives Stock Exchange is TAIFEX (Taiwan Futures Exchange) which is separate from the Basic Stock Exchange which is TWSE (Taiwan Stock Exchange); or in the case of China, there is the CFFEX (China Financial Futures Exchange) China Derivatives Exchange, in Shanghai, there is the Shanghai SHFE Derivatives Exchange and the



Shanghai Stock Exchange. Accordingly, derivative securities on the stock index are traded at the Derivatives Stock Exchange and these transactions are completely separate from transactions on the Basic Stock Exchange: stocks, bonds coupons, and index products.

Model 2: Derivative Stock Exchange and Basic Stock Exchange are organized in a unified Stock Exchange.

The Japanese market has the Japan Stock Exchange Corporation, which was formed based on the merger of the TOKYO Stock Exchange (TSE) and the Osaka Stock Exchange (OSE). Both Stock Exchanges formerly held derivatives and stock trading. However, after the consolidation, in April 2014 all derivatives transactions on the TSE will be transferred to the OSE into specialized exchanges: Tokyo Stock Exchange, which trades stocks, and exchanges Osaka Securities Exchange trades derivatives uniformly in the Japan Stock Exchange (JPX).

Thus, the trend of consolidating national Stock Exchanges into a single Stock Exchange, including derivatives, stocks, and bond trading, is being practiced by many markets in Asia. This shows that the establishment of a centralized Stock Exchange, representing an economy to increase competitiveness, has become a development trend in regional and world finance.

In terms of the market organization model, whether model 1 or model 2, the formation of a derivatives market does not cause fluctuations in the basic stock exchange. In an efficient derivatives market, price movements in the market are the result of changes in supply and demand for the basic asset. If both markets are doing well, prices in both markets will move in the same direction. A large change in supply and demand can lead to disturbances in both markets, doesn't matter if the Derivatives Stock Exchange is in the same organization as the basic Stock Exchange. The design of derivative securities contracts is not up to standard, which can cause great fluctuations, are problems with the organizational structure of the Exchange. Therefore, the key factor is to design a standard contract to minimize volatility between the two markets, rather than the problem of separating or merging the two markets, the basic market, and the derivatives market.

## **2.2. Derivatives trading model**

The types of derivatives traded on the derivatives exchange are similar to the transactions of stocks, bonds on the stock, and bond exchanges in terms of trading methods, trading time, and transaction orders through the mechanism: investors' orders are entered from the trading member system of the Stock Exchange of Derivatives into the central system of the Stock Exchange of Derivatives. Specifically:

The trading time of derivatives usually coincides with the trading time of the basic securities, but each type of derivative is specified with a separate trading time within the trading time frame of the entire market. Except for the last trading day – the trading time on the last trading day will be regulated by the Department with a difference from the normal day trading time, thereby serving as the basis for calculating the final settlement price.

Trading methods: There are two trading methods: continuous order matching and put-through trading. The continuous order matching method is that the order is automatically matched according

to the priority order of price, time, and volume while the put-through trading method is executed when the trading volume exceeds the minimum trading volume for each type of contract.

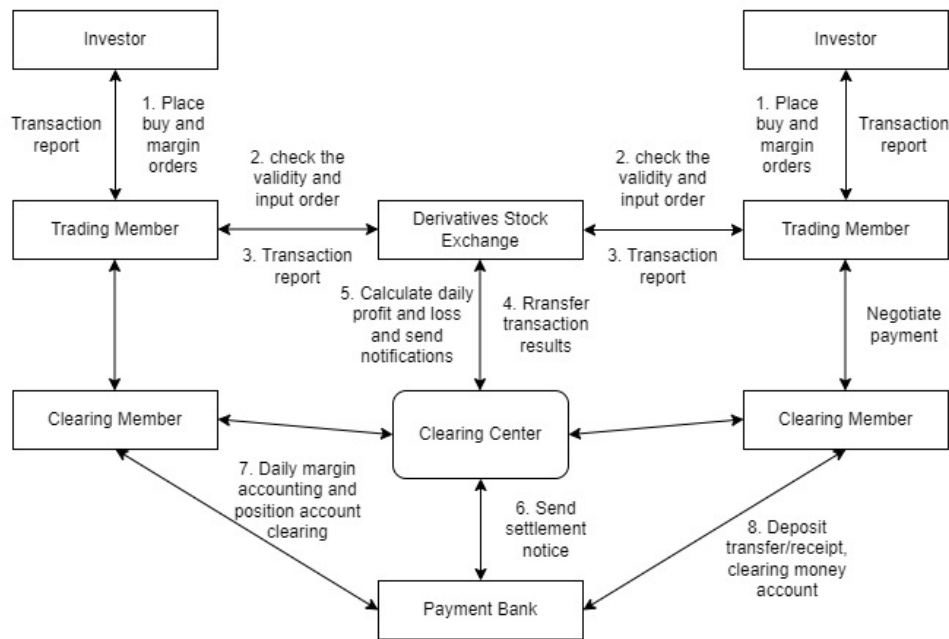


Diagram: Derivatives trading process

(1) Investors place orders and deposits to trading members (TVGD)

(2) The exchange checks investors' accounts, and checks the validity of orders, for orders to open new positions: Check the margin ratio and the number of positions that are still allowed to open to ensure that they do not exceed the position limit for the order to close the position; check the number of open positions available. The trading member then enters the order into the trading system if the order matches the above conditions, otherwise, the order is returned to the investor.

(3) The trading system conducts order matching after checking the position limit, the number of open positions and confirming the transaction from the trading member.

(4) After the order is matched, the Department sends the transaction execution report to the trading member and sends the transaction execution data to the Clearing Center.

(5) The clearinghouse shall account for the daily profit and loss of each trading party, send profit and loss information to the clearing member, and notify the Department.

(6) The clearinghouse sends a notice of the settlement to the paying bank.

(7) After the close of each day's trading session, the Clearing Center must calculate the value of all open positions available in the investor's position account at market prices to keep track of the fund maintains and informs the additional margin to the trading member on the basis of the sum of the margin levels of all customers of the member arising during the day. The clearing center will clear the position account: clearing the number of buys and sell positions, closed positions, and open positions to monitor investors' trading activity and notify position limits and several open positions for the Exchange.

(8) Clearing after money account transactions. Based on the transaction results and the payment appointment of the clearing house, the clearing bank will clear the investor's money account according to the regulations on daily payment.

### **2.3. Membership model**

On the Derivatives Exchange, market participants are divided into two types:

One is trading members. A trading member is a member who conducts derivatives trading for clients or himself. Trading members are divided into the following categories:

Ordinary trading members: Performing the intermediary function, conducting derivatives trading for investors through the trading system of the Derivatives Exchange

- General Member: The person who acts as a member of more than one Accepted Exchange or more than one designated clearing house owned by the Derivatives Exchange.

- Honorary member: A member who has made an important contribution to the development of the derivatives market and is awarded this title by the Derivatives Exchange. Honorary members have certain privileges compared to other members.

Derivatives exchanges in other countries often stipulate separate conditions for each type of trading member such as capital requirements, financial safety criteria, operating licenses, etc.

The second is members' pay. A payment member is a member who performs the payment function for matched transactions for himself or a client. Clearing members are divided into (i) regular clearing members; (ii) clearing members on the OTC market; (iii) direct clearing members; (iv) bank settlement members; (v) honorary clearing members.

Payment members need to meet higher financial conditions than trading members. To be approved as paying members, members must obtain a capital markets services license from the market regulator.

### **2.4. Clearing model**

The clearing system plays a vital role in the development of derivative securities products on the market. An effective clearing system will help the market operate stably, limit systemic risks, and reduce costs. In many countries, the clearing system is located in the Stock Exchange and the clearing for derivatives transactions is done by the clearing system under the Derivatives Exchange.

Due to the complex trading characteristics of derivatives, trading products need an effective securities clearing and settlement system. For securities transactions in the basic market: Transaction execution and payment are made on the spot and at one point in time, but for derivatives transactions, the time of contract maturity Derivatives typically last several months or years until the end. Therefore, it is necessary to have an appropriate clearing market model to limit the risk when one of the two parties fails to fulfill the obligation (counterparty risk) and the risk spreads throughout the system. The central counterparty clearing system (CCP) was created based on minimizing counterparty risk and systemic risk in the derivatives market.

CCP is an entity that stands between trading parties, an intermediary organization between trading partners - a seller for all buyers and also a buyer for all sellers, with the role of ensuring transactions payment between parties even if one party to the original transaction (the original transaction) fails to fulfill its payment obligation.

Derivatives trading includes the steps of determining the rights and obligations of the derivatives trading parties before moving on to the next steps, which are clearing, payment, and transfer of losses, profits as well as product transfer. The trading parties perform CCP without directly dealing, which means that the risks associated with derivative contracts including the risk of payment and receipt of goods are transferred to CCP, thereby limiting counterparty risk as well as the risk of spreading breakdown in the derivatives market.

### **2.5. Monitoring model**

Supervision of the derivatives market at the Derivatives Exchange is divided into two segments:

- \* Transaction monitoring: The purpose of transaction monitoring is to detect anomalies through the criteria like price, and volume and most importantly, to compare the compatibility in the price movements of the derivative and the basic asset.

- \* Compliance monitoring: Monitoring compliance with the provisions of the Law on Securities and futures contracts, regulations, and operational regulations of the Derivatives Exchange.

The Derivatives Exchange conducts supervision in two ways: online supervision and supervision through a reporting system...

The derivatives market model includes the market organization model, trading model, membership model, clearing model, and supervisory model.

## **3. SITUATION IN VIETNAM**

The size of the CKPS market is expanding both in terms of contract volume and transaction value. In 2019, after 2 years of operation, the trading volume of the CKPS market reached 709,128 contracts, equivalent to over VND 58,744 billion. The average increase of trading volume in the first 4 months is approximately 80%/month. In February 2022, the VN30 index decreased by 0.98 % compared to the previous month and reached 1517.18 points at the end of the month.

Transactions on the derivatives market decreased slightly compared to the previous month. With a total of 16 trading sessions held in February, the VN30 futures product had a total trading volume of 2,198,370 contracts with a nominal trading value of VND 335,694 billion, equivalent to a volume. The average trading volume of 137,395 contracts/session, was down 1.8% compared to the previous month. Which, the session with the highest trading volume reached 205,443 contracts on February 24, 2022.

Open interest volume (OI) at the end of the February trading session reached 27,622 contracts, up 21.43% month-on-month. The highest open interest in the month reached 30,612 contracts during the trading session on February 15, 2022.

Regarding the structure of investors participating in transactions, transactions of domestic institutional investors accounted for 26.62%, individual investors accounted for 70.87% of the total trading volume of the market. Transactions of foreign investors in February 2022 decreased by 21.8 % compared to the previous month, accounting for 2.51% of the total trading volume of the whole market.

In November 2017, the total volume of contracts traded was 320,064 contracts, corresponding to the total transaction value according to the nominal contract size of nearly VND 28,484 billion. At the end of November, there were 4 contract codes traded: VN30F1712, VN30F1801, VN30F1803, and VN30F1806. The average trading volume reached 10,399 contracts/session, the transaction value reached nearly 900 billion dong per session, an increase of approximately 21 and 24 times respectively compared to the first trading session (August 10, 2017). As of September 2019, in the past 2 years, more than 36 million contracts have been traded. In the first 7 months of 2019, the average trading volume of VN30 stock index futures contracts per session reached approximately 100,000 contracts/session, an increase of 1.27 times compared to 2018 and nearly 10 times higher than that of 2017. Regarding the government bond futures trading, the 10-year government bond futures contract product has 50 contracts traded, with a total nominal transaction value of 61.25 billion dong. Open interest at the end of the month is 0 contracts. The number of derivative trading accounts continued to increase compared to the previous month. At the end of February 2022, the number of derivatives trading accounts reached 854,648 accounts, an increase of 6.59 % compared to the previous month.

If compared with the transaction of a similar product, which is a futures product on the SET50 index on the Thai derivatives market (which is a developed market in the region with 13 years of age), this trading level is similar to about 70% of the average futures trade on the SET50 index. This is an impressive number, showing the development potential of Vietnam's stock market.

- The legal framework for derivatives trading activities has undergone important changes, synchronously and in line with international practices. From the first stage of providing derivative products to the market, up to now, regulatory agencies have supplemented, adjusted, and revised legal documents in line with the actual fluctuations of the market. The legal system in the derivative securities market has been increasingly improved, which has shown the interest of regulatory agencies in market orientation and construction. In the recent stock market development strategy, the government has also shown its determination to successfully build a derivatives market, creating a basis for the development of the financial market in particular and the country's economy in general.

- The number of investors in the market is continuously growing. Since the Vietnamese stock market was officially put into operation, the market has attracted the attention of both domestic and foreign investors. Vietnam's derivatives market in November 2017 had 7 member securities companies and about 14,000 investors' derivative trading accounts opened by the end of November 31, 2017. The number of derivative trading accounts continues to increase monthly and yearly. By the end of December 2021, there were nearly 900,000 derivatives trading accounts opened, nearly doubling over the same period. The system of trading and clearing members of the derivatives market so far has 23 securities companies.

Transactions of domestic individual investors still accounted for a large proportion although there was a gradual decrease, accounting for 91.15 % of the trading volume of the whole market (compared to 99.1% at the end of 2018). Transactions of domestic institutional investors (including self-trading) still accounted for only a very small part of transactions of domestic investors, reaching 1.54 %. Transactions of foreign investors have increased but still account for a very small proportion of 0.58 % of the total trading volume of the whole market. For the 5-year government bond futures contract product, all transactions are done by institutional investors who are banks, and self-trading transactions of securities companies account for only 10% of the trading volume.

- Derivative products on the market have been standardized according to the regulations of the domestic financial market as well as international practices. In addition, derivative products of the VN30 index have created a premise for the development of Vietnam's stock market, attracting the attention of many domestic and foreign investors.

Open interest volume increased 2.7 times from 8,077 contracts at the end of 2017 to 20,494 contracts on July 31, 2019. During periods when the basic market fell sharply such as in May-June 2018 and May-June 2019, transactions on the derivatives stock market increased sharply compared to the previous month, especially the volume of open contracts (OI) of the whole market had a sudden increase compared to the previous months, for example, the trading session on May 23, 2019, the volume of OI recorded a record level since the time of launch, reaching 39,854 contracts ( 1.85 times higher than the end of 2018 and nearly 5 times compared to the end of 2017). By the end of 2021, after more than 4 years, the derivatives market that came into operation has shown remarkable growth in trading volume and average trading volume over the years. That is proving more and more attractive to domestic and foreign investors as the number of accounts opened has always set a record from the early days with only 17,116 accounts to 743,019 in December 2021 created. Although the trading volume is numerous, the IO volume is modest, proving that investors are mainly surfing without investing in the long term. This is in contrast to the world derivative securities. The size of the whole market capitalization tends to increase continuously in the period from August 2017 to December 2020 from 3,636,015 billion VND, equivalent to 86.69% of GDP to 9,309,889 billion VND, equivalent to 149.94 % of GDP. This is an impressive number when 2 years in a row affected by the Covid-19 pandemic, but the market capitalization is still going up.

#### **4. SOLUTIONS TO DEVELOP THE DERIVATIVES MARKET MODEL IN VIETNAM**

According to the development roadmap of the derivatives market in Vietnam, in the early stages of market development, the derivatives that are allowed to be traded at the Stock Exchange are futures contracts based on the market stock index and futures contracts based on government bonds. Stock-based futures, stock market index-based options, government bonds, and stocks will be traded when the market develops stably;

In the long term, financial derivatives such as futures and options contracts based on basic assets such as stocks, bonds, currency, and commodity futures will be centrally traded on the Stock Exchange.

The derivatives trading system is operated independently from the stock and bond trading system in the Stock Exchange's trading system. The Stock Exchange organizes and operates a derivatives trading system.

Regarding the payment model, the Vietnam Securities Depository Center is the only organization that performs the function of clearing derivatives securities according to the central partnership model through the Derivatives Clearing Center, which is a unit under the Vietnam Securities Depository Center. About members of the derivatives market will develop as follows:

Members of Vietnam's derivatives market include trading members; payment and clearing members.

In which, trading members are securities companies and commercial banks that have been approved by the State Securities Commission for derivatives trading activities and meet the standards of derivatives trading members of the Stock Exchange. Vietnam stock exchange.

Paying and clearing members are securities companies and commercial banks that meet the requirements of being a member of the Derivatives Clearing Center of the Vietnam Securities Depository.

Members of the Derivatives Clearing Center include: 1- Paying and clearing members are securities companies that are provided with derivatives brokerage services and are permitted to offset for brokerage transactions and derivatives trading; 2- Clearing members are commercial banks that make a clearing for derivatives trading transactions when participating as direct members of the bond derivatives trading market. Securities Commission The State supervises all derivatives market activities

The scheme also states that the State Securities Commission supervises all derivatives market activities. The Stock Exchange monitors the member's activities and derivatives trading on the Stock Exchange. The Securities Depository Center supervises activities of clearing members and derivatives clearing activities. The construction and development of the derivatives market follow the development roadmap of derivative products from simple to complex, ensuring the ability to manage and monitor risks in the market.

## **5. CONCLUSION**

The basic objective of the stock market is to create a mechanism to attract long-term investment capital from the public at home and abroad as well as to create a mechanism to share risks in business activities among investors. business with the investing public. As a result, the underlying stock market in general and the derivatives market in particular have played an important role in the country's economic development in recent years. For the derivatives market which is in the early stages of development, the basic elements of a derivatives market come from the legal basis system, market participants such as regulatory agencies, Financial intermediaries, payment centers, market makers, speculative investors, technical facilities, etc. have been formed, but there is still a lack of synchronization, the cohesion is not high. really create a premise for the development of the derivatives market

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# THE IMPACT OF CORPORATE INCOME TAX ON VIETNAMESE LISTED FIRMS' PERFORMANCE

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**Abstract:** *Corporate income tax is an important source of revenue for the governments of most developed and developing countries. However, the international trend has switched from having higher corporate income taxes to a reasonable income tax policies to promote businesses and competitiveness. In Vietnam, the Corporate Income Taxes (CIT) Law No. 14/2008/QH12 of Vietnam has lowered the general CIT rate from 28% to 25% from January 1, 2009, and to 20% from January 1, 2016. This paper investigates the effect of the reduction in CIT on the performance of all listed firms on the Ho Chi Minh City Stock Exchange (HOSE) and The Hanoi Stock Exchange (HNX) from 2014 to 2021. On one hand, state-influenced and larger firms performs better when CIT rate drop. On the other hand, the performance of small and medium enterprises hardly changed before and after the tax change.*

**Keywords:** *Firm performance, state ownership, SMEs, corporate income taxes.*

## 1. INTRODUCTION

In the recent year, the international trend shows that many countries have switched from preferential treatment of certain industries and fields to a large-scale incentive, encouraging the economy as a whole with reasonable corporate income tax regulation policies. Following similar trend, in order to create a favorable condition for businesses to accumulate more resources and increase competitiveness with other countries in the region, the Corporate Income Taxes (CIT) Law No. 14/2008/QH12 of Vietnam, effective from January 1, 2009, has lowered the general CIT rate from 28% to 25% and to 20% from January 1, 2016. This creates a unique situation to study the effect of CIT on firms' performance in Vietnamese market.

Previous literature has shown that CIT has an advert effect on firm performance. Jens and Schwellnus (2008) suggests that firms growth, indicating by profitability and investment, will be lower when facing higher corporate income taxes. Rohaya et al (2010), De Mooij et al. (2003) and Mehran and Suher (2009) also find a negative relationship between corporate taxation and firms' financial performance.

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In this paper, we investigate the impact of the reduction of corporate income taxes in 2016 on firm performance. We use sample of all listed Vietnamese firms listed on the Ho Chi Minh City Stock Exchange (HOSE) and the Hanoi Stock Exchange (HNX) between 2014 and 2021. We employ a OLS regression model with year and industry fixed effect.

We find that firms perform better when CIT drop from 22% to 20% in 2016. We find that the increase effect of performance is prominent within state-influenced firms (firms with more than 20% of state ownership) and larger firms. We also find that the reduction of corporate income taxes has almost no effect on SMEs' performance, suggesting that SME are more likely to have weak financial and operations management such that they fail to be able to take advantage of the lower tax's obligation.

## 2. LITERATURE REVIEW

Previous literature on CIT relies on the theoretical perspective of tax which is the Ability-to-pay approach theory.

The ability-to-pay approach theory (Akakpo, 2009) suggests that individuals who earn more income pay more tax not because they use more public services from the government but because they have the ability to pay more. Under this theory, there are three following principles:

**Equal sacrifice:** This suggests that all taxpayers should have an equal loss of utilities as a result of taxation so that those who can afford to pay higher taxes are made to pay higher.

**Equal proportional sacrifices:** This suggest that all taxpayers should have an equal proportional loss of utilities as a result of taxation.

**Equal marginal sacrifice:** The instantaneous loss of utility this is measured by the derivative of the utility function as a result of taxation should be equivalent for all taxpayers. This will require the least collective sacrifice.

Furthermore, empirical evidence from previous studies about CIT has shown that CIT has a negative effect on firms. Jens and Schweltnus (2008) show that CIT has a negative impact on firms' growth (investment and profitability) when investigating OECD countries' firms from 1996-2004. They show that if there is an increase in CIT, there is an reduction in firms' investment and profitability. The result is found to be true across firms of different size and age.

Rohaya et al (2010) investigate the effect of CIT on profitability of 15,384 corporate institutions from 1995 to 2000. They conclude that CIT and profitability has an advert relationship. Moreover, De Mooij et al. (2003) and Mehran and Suher (2009) also find a negative relationship between CIT and firm's financial performance.

In Vietnam, previous corporate income taxes literature has investigated the impact of CIT on firms. Nguyet (2019) investigates the impact of CIT on Vietnamese firms' capital structure from 2005 to 2010 and find that CIT has a (ambiguous) relationship with firms' debt structure and capital structure.

### 3. HYPOTHESIS DEVELOPMENT

This section explains the hypothesis underpinning the investigation of the relationship between corporate income taxes and firm performance. We propose the following hypothesis:

$H_{1A}$ : *Corporate income taxes have a significant positive effect on Vietnamese listed firms' performance*

The null hypothesis is that the changes of corporate income taxes does not influence firm performance. If the null hypothesis is rejected, the reduction of corporate income taxes in 2016 has a significant effect on firm performance.

Furthermore, to investigate the effect of corporate income taxes, we propose the two following hypothesis:

$H_{2A}$ : *Corporate income taxes have a significant effect on performance of state-influenced listed firms.*

$H_{3A}$ : *Corporate income taxes have a significant effect on the performance of small and medium listed firms.*

The null hypothesis is that the effect of changes of corporate income taxes does not differ between state-influenced listed firms (or small and medium firms) and their peers. If the null hypothesis is rejected, the reduction of corporate income taxes has a different impact on state-influenced listed firms (or small and medium firms) compared with their peers.

### 4. RESEARCH DESIGN

#### 4.1. Divestment of state ownership and firm performance

To examine the effect of corporate income taxes on firm performance ( $PERFORM_{i,t}$ ), the following fixed effect model is estimated:

$$\begin{aligned}
 PERFORM_{i,t} = & \beta_0 + \beta_1 CIT_{i,t} + \beta_2 COVID_{i,t} + \gamma_j \sum_{j=1}^5 CONTROL_{i,j,t} + \lambda_k \sum_{k=1}^{40} YEAR_{i,k,t} \\
 & + \varphi_{i,m} \sum_{k=1}^{10} INDUSTRY_{i,k,t} + \varepsilon_{i,t}
 \end{aligned} \tag{1}$$

where  $PERFORM_{i,t}$  is firm performance ratio (ROA) for firm  $i$  in year  $t$ . ROA is defined as the proportion of net income over total assets.  $CIT$  is a dummy variable control for the changes in corporate income taxes.  $CIT$  equals to 1 for any period after 2016 and 0 otherwise.  $COVID$  is a dummy variable control for the COVID-19 epidemic which is equal to 1 from the beginning of 2020 and 0 otherwise. Under  $H_{1A}$ ,  $CIT$  is expected to positively relate to firm performance, which would implied  $\beta_1 > 0$ .

To further investigate  $H_{1A}$  and  $H_{2A}$  we investigate the two following model using different-in-different (DID) approach:

$$\begin{aligned}
 \text{PERFORM}_{i,t} &= \beta_0 + \beta_1 \text{CIT}_{i,t} + \beta_2 \text{STATE}_{i,t} + \beta_3 \text{CIT}_{i,t} \times \text{STATE}_{i,t} + \beta_4 \text{COVID}_{i,t} \\
 &+ \gamma_j \sum_{j=1}^5 \text{CONTROL}_{i,j,t} + \lambda_k \sum_{k=1}^{40} \text{YEAR}_{i,k,t} + \varphi_{l,m} \sum_{k=1}^{10} \text{INDUSTRY}_{i,k,t} + \varepsilon_{i,t} \quad (2) \\
 \text{PERFORM}_{i,t} &= \beta_0 + \beta_1 \text{CIT}_{i,t} + \beta_2 \text{SME}_{i,t} + \beta_3 \text{CIT}_{i,t} \times \text{SME}_{i,t} + \beta_4 \text{COVID}_{i,t} \\
 &+ \gamma_j \sum_{j=1}^5 \text{CONTROL}_{i,j,t} + \lambda_k \sum_{k=1}^{40} \text{YEAR}_{i,k,t} + \varphi_{l,m} \sum_{k=1}^{10} \text{INDUSTRY}_{i,k,t} + \varepsilon_{i,t} \quad (3)
 \end{aligned}$$

where STATE<sub>it</sub> is a dummy variable equal to 1 if state owns more than 20% of the firm i. And CIT<sub>it</sub> × STATE<sub>it</sub> is the interaction between CIT and STATE to capture the impact of corporate taxes on state-influenced firms. is a dummy variable equal to 1 if firm i has total revenue in year t-1 smaller than 300 billion dong. And CIT<sub>it</sub> × SME<sub>it</sub> is the interaction between CIT and SME to capture the impact of corporate taxes on small and medium firms.

Table I. Variable definitions

Variable	Definition	Construction	Expected sign
ROA	Return on assets, defined as net income over total assets.	$ROA = \frac{\text{net income}}{\text{total assets}}$	
CIT	Corporate income taxes, representing the changes in corporate income taxes from 2016	Dummy variable equal to 1 after the 01/01/2016	+
STATE	State-influenced firms	Dummy variable equal to 1 if a firm has more than 20% state-ownership	+
SME	Small and medium firms	Dummy variable equal to 1 if a firm's total revenue previous year smaller than 300 billion dong.	-
COVID	Representing the COVID-19 epidemic	Dummy variable equal to 1 during and after 01/01/2020	-
INTEREST	Interest expenses, defined as total interest expenses over total assets	$INTEREST = \frac{\text{interest expenses}}{\text{total assets}}$	-
SIZE	Firm size is the natural log of total assets	$ROA = \ln(\text{total assets})$	+
LEV	Firm leverage, defined as total liabilities over total assets.	$LEV = \frac{\text{total liabilities}}{\text{total assets}}$	-
GROWTH	Firm growth rates, defined as percentages changes of EBIT	$GROWTH = \frac{EBIT_{i,t} - EBIT_{i,t-1}}{EBIT_{i,t}}$	+
RT	Receivable turnover, defined as revenue over average receivables.	$RT = \frac{\text{revenue}}{AVER(\text{receivables})}$	+
YEAR	A set of dummy variable control for year fixed effect	Dummy variable equal to 1 for a given quarter and 0, otherwise	
INDUSTRY	A set of dummy variable control for industry fixed effect	Dummy variable equal to 1 for a given industry according to the ICB1 code and 0, otherwise.	

This table provides the definitions of key variables and data sources.

$CONTROL_{i,j,t}$  is consist of 5 characteristics for firm  $i$  in year  $t$ , including interest expenses (INTEREST), firm size (SIZE), leverage (LEV), growth rate (GROWTH) and receivable turnover (RT).  $YEAR_{i,k,t}$  is dummy variable control for year (in our case quarter) fixed effect.  $INDUSTRY_{i,k,t}$  is dummy variable control for industry fixed effect. Table I details definition and measure of each variable.

## 5. DATA SAMPLE

### 5.1. Sample selection

The data sample includes all listed Vietnamese firms listed on the Ho Chi Minh City Stock Exchange (HOSE) and the Hanoi Stock Exchange (HNX) between 2014 and 2020. We choose 2014 as our starting point because from the 1<sup>st</sup> of January 2014, the CIT are lower to 22% (from previously 25% - for firms with total revenue larger than 20 billion dong). Quarterly financial data are obtained from the FiiPro database. Financial firms (including banks, financial services, insurances, and investment funds) are excluded from the main sample because of the differences in financial structure. All variables (except for dummy variables) are winsorized at 1<sup>st</sup> and 99<sup>th</sup> percentile to reduce the effect of outliers. The final sample consists of 684 unique firms and 14,952 firm-quarter observations.

### 5.2. Descriptive statistics

Table II reports the summary statistics for all variables. The mean value of SI is 0.44 suggesting that about 44% of listed firm are under influenced of the state. Meanwhile, the mean of SME is 0.294 suggesting that only about 29.4% of firms listed in the stock market are small and medium enterprise. The mean value of ROA is 1.366% and the median is 0.236% showing that the profitability per quarter of Vietnamese listed firm is decent. The maximum and minimum value of firm size shows that Vietnamese listed firm size discrepancy are large between largest firms and smallest firms (about 1,000 times differences). The mean value of LEV is 52.27%, suggesting that on average listed firms using debt as a major source of financing. The mean value of GROWTH is 0.281% suggesting listed firm has a slower growing rate between 2014 and 2021. The mean value of RT is 13.06, indicating a quick receivable turnover among listed firms. The average value of INTEREST is 0.412%, implying a small interest obligation that listed firm have quarterly.

**Table II. Summary statistics**

VARIABLES	Obs	Mean	Sd	Min	Max	Median
STATE	14,952	0.440	0.496	0	1	0
SME	14,952	0.294	0.456	0	1	0
ROA	14,952	1.366	1.890	-3.774	8.361	0.236
SIZE	14,952	27.54	1.505	24.27	31.73	26.50
LEV	14,952	52.27	21.24	6.762	96.78	36.10
GROWTH	14,952	0.281	54.07	-277.9	258.2	-9.876
RT	14,952	13.06	25.82	0.384	196.7	3.312
INTEREST	14,952	0.412	0.352	-0.00495	1.502	0.117

This table provides the descriptive statistics of the sample, which includes all listed Vietnamese firm from 2014 to 2021. See Table I for variables' definitions. Variables are winsorized at 1<sup>st</sup> and 99<sup>th</sup> percentiles (except for dummy variables, SI and SME).

## 6. EMPIRICAL RESULTS

Table III shows the regression results of Eq (1), (2) and (3), using OLS approach. The key variable of interest is CIT that capture the moment of corporate income taxes changes became effective in 2016. Column (1) shows the results of corporate income tax changes on performance, ROA. In Column (1), the coefficient of CIT is positive and significant at the 1% level, indicating that listed firms perform better after corporate income taxes dropped to 20% in 2016. The coefficient magnitude is 0.397%, suggesting that on average, quarterly ROA of listed firms after corporate income tax reduction are 0.397% higher than before. Or in another word, yearly ROA of a listed firms on average are about 1.6% higher after the reduction of taxes.

The results suggest that firms perform better when the corporate income taxes are lower. This positive change could be the direct result of the reduction in the amount of tax obligation that the firm has.

Column (2) and (3) report the results of corporate income tax change with regard of different type of firm. In Column (2), the coefficient of STATE is positive and significant at 10% level, suggesting that on average listed state-influence firms perform better than their peers. The coefficient of CIT\*STATE is positive and significant at 5% level. This implies that when the income tax drop to 20%, state-influenced firms perform better than non-state-influence firms. After the taxes change, the ROA of state-influence firm is 0.606% ( $0.353\%+0.117\%+0.136\%$ ) higher while those of non-state-influenced listed firms are only 0.353%. The results suggest that state-influenced firms might manager their operation better than non-state firms and as the results, they are better at taking advantage of the drop in income taxes.

In Column (3), the coefficient of SME is negative and significant at 1% level, suggesting that on average SME perform worse than larger firms. In addition, the coefficient of CIT\*SME is negative and significant at 10% level. This suggests SMEs perform worse even after corporate tax reduction. On average, larger firms' ROA is 0.438% higher after tax dropped while those of SME is only 0%. This suggests that the income taxes drop almost do not have any effect on SME. This further confirms that SMEs' management are worse than larger firm and thus, cannot take advantage of the reduction on corporate income taxes.

The coefficients of control variables all have corrected sign and are significant at the 5% level at least. Covid-19 (COVID) has a neagive impact on firm's performance. During the pandemic, various different sector has had difficulty on their operation because of the quarantine and thus, their performance are worse during this period. Interest expenses (INTEREST) and leverage (LEV) have a negative impact on firm performance. This shows that higher financial risk (higher interest expenses) or higher credit risk (higher leverage) will cause a significant decline on firm performance. Firm size (SIZE), growth rate (GROWTH) and receivable turnover (RT) have a positive effect on firm performance. Larger firms with higher growth rate and high receivable turnover are more likely to perform better than smaller firms with less growth potential and slow receivable turnover.

Overall, corporate income taxes dropped in 2016 has a significant positive impact on firm performance, especially on state-influenced and larger listed firms. SMEs are almost unaffected by the changes in taxes, suggesting worse operation and return management.

**Table III. Corporate income tax and firm performance**

Variable	(1) ROA	(2) ROA	(3) ROA
CIT	0.397*** (3.50)	0.353*** (2.99)	0.438*** (3.80)
STATE		0.117* (1.92)	
CIT*STATE		0.136** (1.99)	
SME			-0.297*** (-4.41)
CIT*SME			-0.142* (-1.95)
COVID	-0.254** (-2.50)	-0.253** (-2.49)	-0.241** (-2.37)
INTEREST	-0.903*** (-17.87)	-0.860*** (-16.94)	-0.867*** (-17.16)
SIZE	0.100*** (9.40)	0.107*** (10.06)	0.030** (2.35)
LEV	-0.016*** (-19.68)	-0.017*** (-20.61)	-0.018*** (-21.02)
GROWTH	0.006*** (21.16)	0.006*** (21.18)	0.006*** (21.03)
RT	0.006*** (11.24)	0.006*** (10.57)	0.006*** (10.61)
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
Constant	-0.458 (-1.57)	-0.693** (-2.36)	1.613*** (4.49)
Observations	14,647	14,647	14,647
Adjusted R-squared	0.165	0.168	0.170

## 7. CONCLUSION

This paper investigates the impact of corporate income taxes changes in 2016 on different types of listed firm performance. We argue that the reduction in income taxes could affect firm's performance both directly and indirectly. On one hand, firm's taxes obligation are smaller after taxes change, on the other hand, the lower taxes could encourage firms to manage taxes better and thus, further perform better.

We use a sample of all listed Vietnamese firms from two stock exchange, HOSE and HNX, from 2014 to 2020. We find that when corporate income taxes drop from 22% to 20% in 2016, firm performance is improved. We find that the effect of taxes reduction is prominent among state-influenced firms and larger firms while those effect on non-state-influenced firms' performance are weaker. Especially, we find that SMEs are almost unaffected by the changes of corporate income taxes.

Aside from the research findings, there are some limitations: the study includes all listed Vietnamese firms in HOSE and HNX, meaning all listed firms are included. However, there are significant number of firms are non-listed firms, especially SMEs. Because of the lack of publicly disclosed information on non-listed firms, the result of the study is limited to listed firms. Also, the financial data of this study is collected from Fiiipro. Although, Fiiipro is the biggest and most complete providers of the financial data in Vietnam, the reliability and completeness of their financial information is questionable. Thus, a further verification of the accuracy of financial data from Fiiipro should be performed.

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# THE IMPACT OF THE PUBLIC REVENUE BURDEN ON THE PERFORMANCE OF SMALL AND MEDIUM - SIZED ENTERPRISES IN VIETNAM

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**Abstract:** *To promote the development of small and medium -sized enterprises, the Vietnamese government has applied a range of preferential policies specifically for these businesses. However, many businesses believe that payments to the state budget are still a financial burden for businesses. The study is conducted to analyze the impact of public revenue burden on the performance of SMEs in the period 2012-2018. The results show that: the large-scale enterprises have better performance than SMEs; Inflation rate impacts negatively on the performance of enterprises; The quality of business environment has positive effect on the result of enterprises. Additionally, the business fields also affect the enterprises' performance. The results do not show a difference in the burden of budget obligations for the operation of large and SMEs.*

**Keywords:** *public revenue burden, SMEs, GDP, Inflation, firm size, PCI*

## 1. INTRODUCTION

There are little doubt that small and medium size enterprises (SMEs) plays a vital role in development of national economies. These enterprises can be a social investment supply chain and an important driver of socio-economic goals such as equity, employment opportunities, sustainable growth, and poverty reduction (Prasetyo, 2008; Prasetyo & Dzaki, 2020e; Tambunan, 2019). SMEs support the development of local industry (Srinivas, 2013; Mujahid, & Begam, 2019). In developed countries such as Japan, Korea, Taiwan and some other countries, SMEs make important contributions to economic growth and receive many support mechanisms from the government (Katua, 2014). Although SMEs have many important roles in GDP and create jobs for the economy, their success is still relatively low, not commensurate with their potential. In developing countries, this business sector faces a range of difficulties and challenges that need support from the government through tax policies, subsidies, or regulations. Policies that promote the development of SMEs contribute to poverty reduction, unemployment, inequality, and income growth, and promote economic growth (Prasetyo, 2008; Prasetyo et al., 2020c, 2020d; Asghar et al., 2011).

Vietnam is a developing country and SMEs play an important role in driving economic growth. These businesses account for 97-98% of total number and create more than 50% of jobs in the economy. Despite their smaller size, they are the most important enterprises in the economy as

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the combined contributions of SMEs surpass large enterprises. These businesses have well solved the problems of employment, competition, development motivation and innovation, helping to stimulate the business environment for businesses. While large enterprises are concentrated in a few economically developed regions, SMEs are often scattered in many different geographical areas. This feature makes these businesses a driving force for development as well as making important contributions to local incomes.

Similar to other countries, SMEs in Vietnam also face many difficulties in their operation. In order to promote the development of this business sector, the Government has issued many supportive policies, one of which businesses are most concerned about is tax policy. Tax policy directly affects the operating financial resources of enterprises when it is deducted from profits earned by enterprises. Tax policies of the government in recent years are aimed at supporting SMEs to have more resources to maintain and expand production and business activities. In addition to that, the Government also pay attention to reduce the other state budget obligations for these enterprises. However, many businesses still believe that payments to state budget are still a financial burden for businesses. Many payment obligations to the state budget reduce the financial resources of enterprises, limit the opportunity to expand production and business. To learn more about the effect of state budget obligations on business operations, this study is conducted to analyze the impact of burden from the payment for state budget on the performance of SMEs in the period 2012-2018.

## **2. THEORETICAL BASIS AND HYPOTHESIS**

The factors that determine the growth of small businesses can be divided into many factors both from internal and external factors. Studies show that the factors affecting the performance of SMEs are divided into individual, organizational and environmental factors (Baum, Locke and Smith, 2001; Covin & Slevin, 1991). Delmar et al., 2003).

### **Internal factors**

#### ***Enterprise size***

To date, many studies have suggested that large enterprises have an advantage over small enterprises by taking advantage of economies of scale, so that large enterprises contribute more to the economy (Galbraith, 1967; Schreiber, 1968; Prais, 1976). This shows that there is a relationship between the size and the performance of the enterprises. This is demonstrated through Gibrat's Law. Many studies have been done and give different results about this Law. Empirical research by Singh and Whittington (1975); Reid (1993); Heshemati (2001) states that firm size does not affect the growth of firms over a certain period. Therefore, it is possible that the effect of size on the firm must experience a period of time.

Testing the theory of proportional growth, Jovanovic (1982) built a business growth model called the noisy selection model, based on a life-cycle theoretical approach. According to this model, businesses achieve real efficiency over time. Small firms grow faster than large firms, which is related to the cost effectiveness of firms. Usually, new entrants to the market are micro-sized and over time some of them will grow and become large enterprises. However, when becoming large

enterprises, the incentive of increasing the scale of businesses decreases. However, this model does not take into account the advancement of science and technology and its impact on business growth (Ericson and Pakes, 1995).

Another way of explaining why small businesses grow faster than larger ones is that small businesses are often more resilient and adaptable to economic fluctuations. Flexibility enables businesses to react more quickly to a changing business environment and thus have higher growth rates (Francicevic and Bartlett, 2001; Sak and Taymaz, 2004). The costs of adapting to changes in small firms than are also lower than large firms (Sak and Taymaz, 2004).

The size of the enterprise determines many performance indicators of enterprises. There are many studies that have shown that firm size is one of the important characteristics affecting the financial performance of enterprises (Amato and Amato, 2004; Isik and Tasgin, 2017). Some studies showing a positive relationship between size and profitability are Dogan (2013); Çelikyurt and Donmez (2017); Isik and Tasgin (2017)). Meanwhile, some studies show a negative impact of firm size on financial performance (Becker-Blease et al., 2010; Hatem, 2014; Shehata et al., 2017).

From the above studies, the authors propose the following hypothesis:

*H1: The large-scale enterprises have better performance than the small ones.*

### ***Field of business***

In addition to the scale factor, the industry and business field factors also determine the operation of the enterprise as well as the influence of the scale of operation on the growth of enterprises. Hall (1987) analyzed a sample of large enterprises in the manufacturing industry with better performance and growth than small-scale enterprises. This can be explained by the fact that this is an industry that requires a lot of financial resources, high production costs, and it is also an economy of scale. Therefore, the manufacturing industry advantage belongs to large-scale enterprises. Meanwhile, in the service industry, there is no linear relationship between the size and growth of firms (Johnson, Conway and Kattuman, 1999). Each business area in the service industry produces different results.

From the above studies, the authors propose the following hypothesis:

*H2: Enterprises operating in certain industries have operational advantages over others*

### **External factors**

When studying the barriers to the operation and development of SMEs, the authors often hypothesize that these enterprises are growth. The impact of the external environment prevents businesses from achieving their growth goals or unleashing their full potential. This shows that the business environment is one of the core factors affecting the operation and growth of enterprises, especially SMEs.

### ***Macro environment***

Lumpkin and Dess (1996) pointed out that the environment affects firm performance and growth regardless of its strategic orientation or firm resources. However, the business environment is a multidimensional concept that includes dynamics, technological opportunities, industry

developments, and demand for new products (Zahra and Ellor, 1993). Janssen (2002) summarizes the external environment as encompassing prosperity, dynamism, and complexity. An environment is considered a munificent environment or hostile environment depending on whether its effect on firms is positive or negative (Tsai et al., 1991; Clement et al., 2004; Iakovleva, 2005). This also depends on the industry growth in each market context. In addition, the author also shown that the stability of the market is also an important factor. Some destabilizing factors can be changes in demand or rapid developments in science and technology that are often difficult for small businesses to predict.

In addition, positive changes in the market can attract new entrants to the industry, increasing competition in the market. This is a major disadvantage for small-scale enterprises, which are inherently at a disadvantage in terms of operational capacity (Glancey, 1998). Strong competitions make it difficult for small-scale businesses to maintain operations, especially those in the early stages of establishment. Pressures on demand reduction or the development of science and technology force enterprises to innovate technology or seek new market opportunities (Clement et al., 2004). Technological changes require increased investment with financial resources. Meanwhile, SMEs have limited financial resources, reducing their competitiveness.

However, a dynamic market can also open up many opportunities for small-scale enterprises (Chandler and Hanks, 1994). Enterprises can promote their comparative advantage to expand their production and business activities.

In economies with slow or partial market reforms, the macroeconomic environment is often volatile and affects the characteristics and behavior of small businesses (Smallbone and Welter, 2001a). As GDP declines, persistently high unemployment leads to lower real incomes, which affects business prospects (Earle and Sakova, 1999; Smallbone and Welter, 2001b). As a result, the purchasing power of consumers decreases, leading to a decrease in the demand for goods and services, and limiting the development potential of SMEs.

Therefore, the authors propose the below hypothesis:

*H3: GDP growth rate has positive effect on the performance of enterprises.*

Macroeconomic stability also affects investment decisions of enterprises, especially for long-term projects (Smallbone and Welter, 2003). Since stable prices create a favorable environment for investment calculation and business expansion (Earle and Sakova, 1999). The instability is reflected through a high inflation rate that reduces the commercial contracts signed between the parties (McMillan and Woodruff, 2002). Any business contract will be difficult to come to a conclusion when it is impossible to attend the delegation about the price. In addition, when inflation occurs, it is often difficult for businesses to predict the future, especially for SMEs operating in international markets where exchange rates fluctuate constantly.

As a result, the following hypothesis is given:

*H4: Inflation rate impacts negatively on the performance of the enterprises*

### ***Tax burden***

Taxation plays an important role in the development of businesses because policy makers can change the investment model and decision of enterprises through taxation. Favorable taxes

often stimulate business activity and growth but reduce government budgets. Most countries face a trade-off between low budget deficits and low corporate taxes. To solve this problem, applying a wide tax base is one of the solutions because SMEs often cannot pay high tax rates. Hashi and Mladek (2000) demonstrated that in transition economies, taxes and corporate contributions are higher than in European countries, and this is the main obstacle for firms. Paying too many taxes causes a tax burden for businesses, reducing the operating resources of businesses. Paying too many taxes causes a tax burden for businesses, reducing the operating resources. Lower taxes and contributions can help SMEs develop and have higher output, as well as reducing the size of the informal economy. Thus, it can be seen that taxes create a burden for businesses in general and SMEs in particular.

Tax burden is the tax payable by the business in a period compared to corporate revenue. Paying taxes is a very complex and difficult process to quantify, often reflected in the amount of tax actually paid. Many studies show that, often the end consumer bears the burden of the tax. However, there are some businesses that are unable to transfer the tax burden and bear all the taxes to be paid by themselves.

In general, the actual tax burden is measured by effective tax rates (ERTS) directly affects the business activities of enterprises. The amount of tax actually paid reduces the financial resources for production and business activities of enterprises, especially SMEs, which have financial disadvantages. In addition to the tax, the businesses also have to fulfill other financial obligation to the state, such as fees, charges and other budget payments. However, the main part of these financial obligation is still tax burden. Therefore, in this study, the authors consider ERTS is burden of public revenue on enterprises in general and SMEs in particular.

The influence of the business environment on firms of different sizes is different. Schaffer and Weder (2001) based on a survey of businesses around the world found that small businesses have more problems than large enterprises in raising capital, paying taxes, inflation, administrative procedures, and anti-competitive legal practices.

Stickney and McGee (1982) have shown that size, capital intensity and leverage are related to the tax burden of firms. Zimmerman (1983) used econometric models to test the relationship between firm size, industry, and average effective rate. Zimmerman used time series data to study corporate tax rates payable between 1974 and 1981. The results show a positive relationship between firm size and real tax rates, especially in the industry. Petroleum. This assertion is re-proved by Wilkie and Limberg (1990), Kern and Morris (1992).

To make clear the impact of this burden, the authors propose two hypotheses as follows:

*H5: ERTS has negative impact on the performance of enterprises*

and

*H6: The impact of ERTS on SMEs is less than the one of large-scale enterprises.*

### 3. MODEL ANALYSIS AND DATA SOURCES

#### *Research model*

To analyse ERTS affecting the activities of SMEs in Vietnam, the authors use a number of research methods such as: statistics, description, synthesis, comparison.... From there, make assessments and conclusions.

Based on studies on the influence of factors on the activities of enterprises, the study uses panel data regression to analyse the degree of influence of ERTS on the activities of SMEs in Vietnam. The research model has the form as follows:

$$\begin{aligned} \text{LogProfit}_{it} = & \beta_1 + \beta_2 \text{Fsize}_{it} + \beta_3 \text{Bsector}_{it} + \beta_4 \text{ERTS}_{it} + \beta_5 \text{ERTSFsize}_{it} \\ & + \beta_6 \text{GDPR}_{it} + \beta_7 \text{INF}_{it} + \beta_8 \text{PCI}_{it} + e_{it} \end{aligned}$$

In which:  $e_{it} = c_i + v_{it}$ ,  $c_i$  the residual that varies only with  $i$  (province/enterprise variation),  $v_{it}$  the residual variable with both  $i$  and  $t$  (by province/enterprise and over time).

The dependent variable is *LogProfit<sub>it</sub>*

The explanation variables are *Fsize<sub>it</sub>*; *Bsector<sub>it</sub>*; *ERTS<sub>it</sub>*; *GDPR<sub>it</sub>*; *INF<sub>it</sub>*; *PCI<sub>it</sub>* and an interactive variable

The explanation of the variables as the below table:

**Table 1: Description of variables**

Variables	Variable explanation	Calculation	Data source
<i>LogProfit<sub>it</sub></i>	Profit after tax by year of the enterprise. This dependent variable represents the result of enterprises.	Calculated by enterprise-level data Profit after tax is calculated based on annual GSO survey data on financial indicators of enterprises. This variable is taken logarithmic value.	GSO's enterprise survey
<i>Fsize<sub>it</sub></i>	Dummy variables represent the effect of enterprises' size: <i>Fsize<sub>it</sub> = 1</i> : SMEs <i>Fsize<sub>it</sub> = 0</i> : large-scale enterprises	Calculated by enterprise-level data. The classification of enterprises by size based on Vietnam's enterprise classification criteria according to Decree 39/2018/ND-CP of the Ministry of Planning and Investment	GSO's enterprise survey
<i>Bsector<sub>it</sub></i>	Dummy variable represents the business field: <i>Bsector<sub>it</sub> = 1</i> : manufacturing and processing industry. <i>Bsector<sub>it</sub> = 0</i> : other fields.	Calculated by enterprise-level data. The classification is based on the list of business lines in the Vietnamese economic system issued together with the Prime Minister's Decision No. 27/2018/QD-TTg dated July 6, 2018). Research to select the most popular business field among SMEs	GSO's enterprise survey

$ERTS_{it}$	The burden of public revenue by year of enterprises	Calculated by enterprise-level data. ERTS= Total actual budget payments/ Gross profits Total actual budget payments and Gross profits are calculated through annual GSO survey data.	GSO's enterprise survey
$ERTSFsize_{it}$	Interaction variable: the effect of ERTS by firm size (by year)	Calculated by enterprise-level data $ERTSFsize_{it} = ERTS_{it} * Fsize_{it}$	GSO's enterprise survey
$GDPR_{it}$	GDP growth rate by year	Calculated by country level data GDP data is collected from annual statistical publication of GSO	GSO
$INF_{it}$	Inflation Rate by Year	Calculated by country level data This index is measured through the CPI announced by the General Statistics Office	GSO
$PCI_{it}$	Provincial Competitiveness Index- The index measures and evaluates the quality of economic governance, the degree of convenience and friendliness of the business environment, and the administrative reform efforts of the governments of provinces and cities in Vietnam, thereby promoting the development of businesses	Calculated by provincial level data. The PCI is constructed in a three-step sequence, referred to as "the 3 Cs": 1) collect business survey data and published data sources, 2) calculate ten sub-indices and standardize to a 10-point scale, and 3) calibrate the composite PCI as the weighted mean of ten sub-indices with a maximum score of 100 points.	VCCI

Source: Authors' synthesis

### Data source

To estimate the impact of these factors on the performance of SMEs in Vietnam, the author uses the enterprise census data set conducted by the General Statistics Office of Vietnam in the period 2012-2018. This is the largest data set in Vietnam today, with a large sample size and a long time, the scientific method of data collection and the highest accuracy, so the quantitative results are based on the data set. This can draw conclusions that are representative of all SMEs in the entire economy. Therefore, the evaluation of factors affecting SME activities in Vietnam based on this data set will give a more general assessment result than the previous data sets.

After processing data, the study filtered out 35,815 observations for analysis. The data set contains the statistics of selected variables which is put into the research model.

## 4. RESEARCH RESULTS

The authors performed correlation statistics between the variables in the model and get the following results:

**Table 2: Correlation statistics between variables in the model**

	logProfit	Fsize	Bsector	ERTS	ERTSFsize	GDP	INF	PCI
logProfit	1.0000							
Fsize	-0.5056	1.0000						
Bsector	0.2699	-0.0365	1.0000					
ERTS	-0.0297	0.0002	-0.0222	1.0000				
ERTSFsize	-0.0796	0.1139	-0.0161	0.7971	1.0000			
GDP	0.0324	-0.0020	-0.0035	-0.0215	-0.0296	1.0000		
INF	-0.0297	0.0111	0.0055	0.0158	0.0257	-0.7935	1.0000	
PCI	0.1877	-0.1040	0.0657	-0.0200	-0.0325	0.5068	-0.2182	1.0000

*Source: Calculated by the author from Stata 16*

From the statistical results on the relationship between the variables, it can be seen that:

Large-scale enterprises have better business results than small and medium-sized enterprises. Enterprises in the processing and manufacturing industry have more correlation with corporate performance than those in other industries.

The burden of public revenue negatively correlates with business performance as the rate of inflation. The growth of GDP creates a positive effect on the activities of enterprises in general and SMEs in particular.

The quality of business environment shown through PCI creates a favourable operating environment thereby creating positive business results for enterprises in general and SMEs in particular. So basically, the correlation statistics of the initial variables are consistent with the proposed hypothesis. Testing for multicollinearity of the regression model: the VIF value of the model shows that there is no multicollinearity phenomenon.

### ***Analysis results***

The authors run the FEM and REM models and then use the Hausman test to select the appropriate model. The model results show that the selected FEM model and this model both have autocorrelation and variable variance. The authors run the calibration model and have the following results:

Considering the original model (1) and the adjusted model (3), we can see that at 1% significance level:

In both the FEM fixed-effects model and the adjusted model, large enterprises always have better business results than SMEs. This confirms the advantages of large-scale enterprises in the market.

Regarding business lines, the original model did not give statistical significance, but in the adjusted model, enterprises in the processing and manufacturing industry performed 148.6% better than in other industries. It can be seen that this is the dominant industry in the market today.



**Table 3: Model results**

	(1) logProfit	(2) logProfit	(3) logProfit
Fsize	-0.299*** [-11.82]	-0.726*** [-29.61]	-2.976*** [-238.14]
Bsector	-0.0252 [-0.39]	0.872*** [19.52]	1.424*** [119.00]
ERTS	-0.0309*** [-8.28]	-0.0305*** [-7.91]	-0.0243*** [-5.28]
ERTSFsize	0.00346 [0.75]	0.00368 [0.77]	-0.00319 [-0.48]
GDPR	0.0758*** [4.17]	0.0136 [0.73]	-0.325*** [-18.36]
INF	-0.0279*** [-7.87]	-0.0341*** [-9.36]	-0.0717*** [-18.41]
PCI	0.00130 [0.46]	0.0156*** [5.50]	0.0994*** [48.84]
_cons	6.492*** [55.15]	6.005*** [49.00]	4.583*** [39.02]
N	35815	35815	35815
R-sq	0.030		

t statistics in brackets

\*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Note: Model (1) estimated by REM analysis; Model (2) estimated by FEM model and Model (3) estimated by FEM model adjusted

Source: Stata 16

Regarding the burden of public revenue in both models, the burden hindered the operation of enterprises in the market. Specifically: in the original model, the burden of paying the state budget 1 Dong reduced corporate profits by 3.09%; in the corrected model, the reduction is 2.63%. However, it is not clear whether large-scale enterprises or small-scale enterprises will be more affected.

Regarding the effect of GDP growth on corporate performance, the results of the original model and the adjusted model for the data are different. In the original model, GDP growth increases profits by 7.58%, while in the adjusted model it reduces profits by 32.5%. The reason why the results in the adjusted model are contrary to the hypothesis can be explained that the data in the model is the growth rate of general GDP. GDP growth rates affect businesses in different localities or the level of benefits of local enterprises is not the same. There are enterprises with a growth rate higher than the actual local GDP growth rate. Therefore, the overall effect of GDP growth on the performance of enterprises is negative.

The effect of inflation is statistically significant in both the original model and the adjusted model. In the original model, the inflation rate increased by 1%, causing the profit of enterprises to decrease by 2.79%; In the inflation-adjusted model, profits fell by 7.17%.

The index reflecting the overall business environment quality in province – PCI is not statistically significant in the original model but is statistically significant in the adjusted model. Specifically, PCI increased by 1 unit point, the profit of enterprises improved by 9.94%.

Basically, except for the effect of GDP, the variables all give results consistent with the hypothesis.

## 5. DISCUSSION

From the above results, some conclusions and implications can be drawn as follows:

*First*, small-scale enterprises have fewer business advantages than large-scale enterprises and therefore they often perform worse. The Government needs to have measures to further support the activities of SMEs, increasing the potential for these businesses.

*Second*, in the current context in Vietnam, enterprises in the processing and manufacturing industry have more advantages than enterprises doing business in other fields. This is also an industry where SMEs account for a large proportion, with specialization in providing products in small markets or as a supplier for large enterprises. The government needs to take measures to continue promoting the development of businesses in this industry, but also need to take measures to support businesses in other industries to ensure the balanced and comprehensive development of the market.

*Third*, the payment to the state budget makes the business results of enterprises worse. Payments put a financial burden on businesses, reducing profits because revenues are deducted directly from profits earned by businesses. Therefore, the government should consider collecting tax, fee, charge from businesses. It has not yet been seen how the impact of the obligation to pay the state budget is different for enterprises of different sizes. This shows that preferential policies for SMEs such as tax incentives or incentives on fees and other government revenues applied in the past time have not really brought into play. The government needs to complete its own preferential policies, ensuring to promote the development of SMEs in the coming time.

*Fourth*, the influence of gross national product growth on business performance in the study has not yet fully reflected the actual results due to data limitations. To accurately assess the impact of GDP growth on business operations, it is necessary to take into account the local GDP.

*Fifth*, the inflation rate always causes negative effects on the activities of businesses, so the government needs to take measures to control and maintain the inflation rate at a reasonable level, create favourable conditions for businesses.

*Sixth*, localities need to continue to implement institutional reform measures, measures to support businesses, and create a positive business environment for businesses operating in the area. This is considered an important task of the localities in the coming time.

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# FACTORS AFFECTING GREEN CREDIT: EXPLORATORY FACTOR ANALYSIS IN VIETNAM COMMERCIAL BANK

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**Abstract:** Vietnamese commercial banks have provided green credit but the results are still slow: green credit balance is only 3,7% of the total credit balance, focusing on two areas: green agriculture (40%) and clean energy (30%). In this study, the authors used exploratory factor analysis (EFA) to determine the factors and their influence on green credit at Vietnamese commercial banks. Research showed a correlation relationship between the green credit demand, bank motivation, and green credit legal regulations to the green credit performance in Vietnam commercial banks. Since then, the affection level of each factor has been determined.

**Keywords:** green credit, factors affecting, exploratory factor analysis

## 1. INTRODUCTION

One of the solutions for green economic growth is offering green credit. Green credit is one of the solutions adopted by the financial industry to deal with the world's environmental and social challenges through financial instruments (Aizawa và Yang, 2010) [5]. Green credit is an expression of sustainable finance aimed at sustainable development (Jin and Mengqi, 2011) [7]. Wang et al. (2019) [9] argue that green credit is a credit. According to the perspective of the United Nations Environment Program UNEP (2016), green credit is understood as “credit for consumption, investment, production, and business needs without causing risks to the environment, contributing to the protection of the common ecosystem”. Thus, the target of green credit is to support production and business projects that do not pose risks to the environment, or to protect the environment, contributing to general ecological protection.

In Vietnam, the legal framework for green credit has been formed (Decision 986/QĐ-TTĐ dated August 28, 2018 Decision 2053/QĐ-TTĐ dated October 28, 2016). The State Bank of Vietnam has also asked commercial banks to promote the implementation of green credit for projects with clear objectives on environmental protection and encouraging environmentally friendly business activities. Results: green credit balance ratio increased from 1.5% in 2015 to 3.7% in 2020. About structure by sector, green credit mainly focuses on green agriculture (44% of total green credit balance), renewable energy, clean energy (29%), sustainable water management in urban and rural areas (13%); sustainable forestry (11%) and other sectors 3% (State Bank, 2020). This fact shows that the imple-

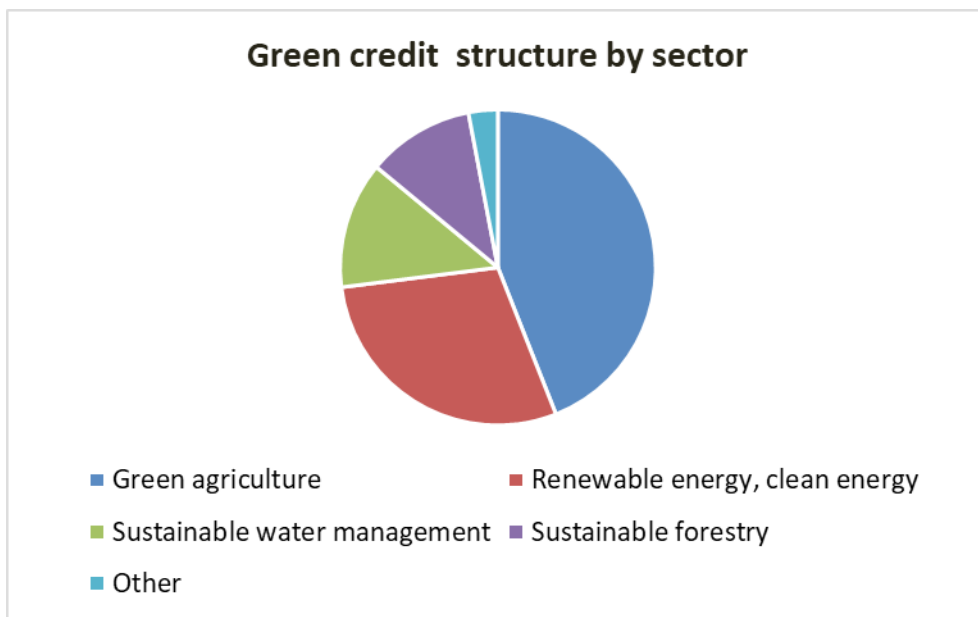
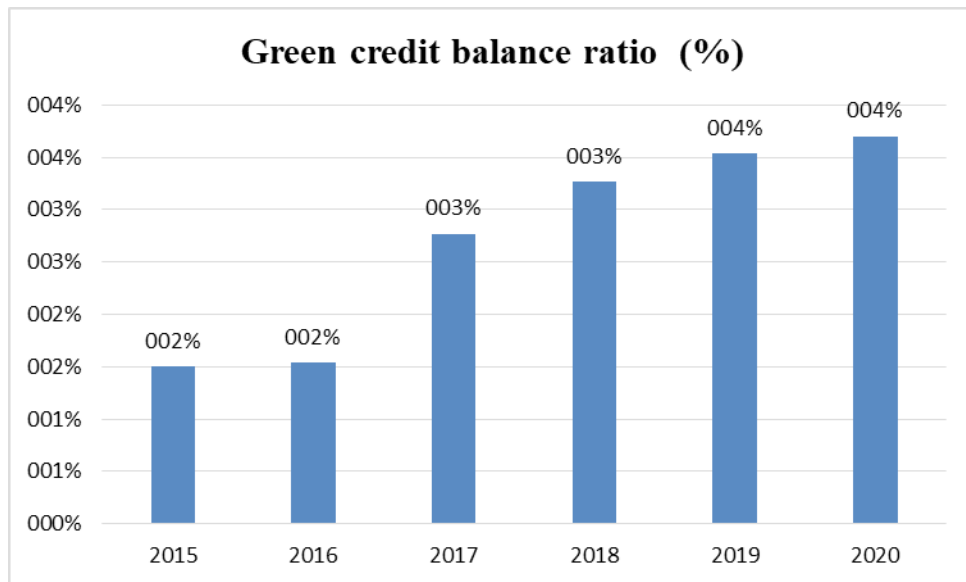
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mentation of green credit in Vietnamese commercial banks is still slow. The question is “what factors affect the implementation of green credit in Vietnamese commercial banks”.



Source: State Bank (2020)

## 2. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES

Jin and Mengqi (2011) [7] studied the factors affecting the implementation of green credit policy, in which, the factor “environmental risk assessment” is considered an important factor because it can become credit risk for lenders. Mengze and Wei (2013) [8] also said that banks all face difficulties in assessing environmental risks when lending.

Weber (2016) [10] has shown the link between the sustainability of Chinese banks and the financial performance of banks with green credit. The study performed regression analysis research

on 3 groups of variables: the first is the financial indicators reflecting the bank's performance; the second is green banking products and services; the third is an indicator of sustainable performance such as management system and strategy.

The most prominent domestic publication related to green credit is that of author Tran Thi Thanh Tu (2016) [4]. Research has been carried out on such contents as developing green banks, green financial markets, researching and proposing to develop products and tools to mobilize green capital, and forms of green investment. Regarding the study of factors affecting green banking in Vietnam, Tran Thi Thanh Tu proposed 5 factors including (i) understanding of green banking; (ii) barriers to the adoption of green banking practices; (iii) advantages in developing green banks; and (iv) concentrated business areas of green banking.

Dang Thi Minh Nguyet et al. (2021) [1] again assessed the impact of green credit on the performance of commercial banks based on building a research model with 5 influencing factors: (i) green credit demand and green credit legal regulation; (ii) barriers and challenges when deploying green credit; (iii) advantages when deploying green credit; (iv) credit volume and results; (v) the cost of providing green credit. Research results show that these factors all have a positive impact on the performance of commercial banks in Vietnam. The increased chance of these factors in green credit deployment will help increase the operational efficiency of Vietnamese commercial banks.

Some other studies such as the study of Le Thi Anh Quyen (2022) [2], and study has made some recommendations to promote green credit. The recommendations focus on completing the legal regulation on green credit, completing the process of project evaluation and selection, and the risk management system, especially the environmental and social risks when getting a loan.

A summary of published studies shows that green credit development is based on the following factors: (i) adequate legal framework; (ii) a clear process by commercial banks for assessment and selection of green credit projects and risk management; (iii) benefits from green credit for commercial banks such as increased cash flow, increased business efficiency, increased reputation, etc.

### **3. METHODOLOGY AND PROPOSED MODEL**

#### *Data Collection Method*

Based on the theoretical overview, the authors assume the factors affecting the implementation of green credit are: (i) Green credit demand; (ii) Green credit legal regulation; (iii) Bank's motivation for green credit. Then, the authors made a Questionnaire with a 5-level Likert scale to collect primary data. The questionnaire was designed on Google Form software and then converted into a linked form and sent to staff working at Vietnamese commercial banks.

Part 1 of the Questionnaire deals with identifying information on the respondents. Part 2 deals with the green credit Demand, Green credit Legal regulation, Bank's motivation for Green credit (*Independent variable*), and the results of green credit implementation by banks (*Dependent variable*).

#### *Determine the minimum sample size*

The study was carried out according to the quantitative research method. Apply the sampling method suggested by Nguyen Dinh Tho (2014) [3] which is a non-probability sampling method,



that is, sampling with accessible people. According to Bollen (1989) [6], the minimum “sample/observed variables” ratio is 5/1. In this study, there are 15 observed variables, so the minimum sample is 75.

At the end of the survey, the authors received 92 samples. However, the authors have to eliminate 12 that are exactly similar to each other. Therefore, there are only 80 left.

### *Measurement*

Variables	Variables	Source
General information		
	Name and Position	
	Type of Commercial Bank	
NC	Green credit Demand	
NC1	Green investment in enterprises	Suggestions from Tran Thi Thanh Tú's research
NC2	Green consumption habits of people	
NC3	Green bank development	
NC4	Sustainable economic development	
PL	Green credit Legal regulation	
PL1	Legal regulation for green credit	Recommended by the authors
PL2	State support	
PL3	Regulations of commercial banks on green credit	
PL4	Green credit process of commercial banks	
DL	Bank's motivation for Green credit	
DL1	Promote the bank's brand	Suggestions from Dang Thi Minh Nguyet's research
DL2	Increase public appreciation	
DL3	Increase market share	
DL4	Increase the influence of commercial bank	
TDX	Green credit performance	
TDX1	Archive the target of the green credit balance	Recommended by the authors
TDX2	Green credit growth rate	
TDX3	Priority for green credit	

The author uses exploratory factor analysis to find out the factors that affect the implementation of green credit. This study uses SPSS software to test the scale and analyze the exploratory factors.

### *Suggested hypotheses include:*

H1: Green credit demand has a positive effect on green credit performance

H2: Legal regulation on green credit has a positive effect on green credit performance

H3: Bank's motivation for green credit has a positive effect on green credit performance

### *Step 1: Cronbach's Alpha analysis*

Cronbach's Alpha will test the reliability of the variables used to measure each factor affecting green credit; Unreliability variables will be removed from the scale. Cronbach's Alpha index has a variation in the range of 0-1. Variables with variable correlation coefficient total < 0.3 will be removed.

### *Step 2: EFA analysis*

EFA factor analysis aims to reduce a set of many variables into a set of fewer observed variables but still contains basic information. The results of EFA factor analysis show that 13 observed variables in the original model have deleted a few observed variables to ensure the best solution.

- KMO (Kaiser-Meyer-Olkin): is the index used to consider the suitability of factor analysis. The KMO value must be 0,5 or more. If this value is less than 0,5, factor analysis does not fit the data set.

- Bartlett's test of sphericity is used to look at whether observed variables factors are correlated or not. Bartlett's test is statistically significant at 0.05 (sig Bartlett's Test 0.05) proves the observed variables are correlated with each other.

- Eigenvalue: to determine the number of factors in EFA analysis. Only factors with Eigenvalue  $\geq 1$  will be kept.

- Total Variance Explained  $\geq 50\%$  shows the model EFA is suitable. The results show that the stop at Eigenvalue from 1.00 to 6,559  $>1$  and Total Variance Explained is 74.59%  $>50\%$ , showing that the EFA model is suitable.

- Factor loading reflects the correlation between the observed variable and the factor. The higher the absolute value of Factor loading, the greater the correlation between that observed variable and the factor and vice versa.

### *- Step 3: Regression analysis*

To estimate the influence of independent variables on green credit, the author uses a multivariate regression analysis model. From the results of the past, the author will test the previously proposed hypotheses.

Regression model:

$$\text{TDX} = \text{Beta}_1 * \text{NC} + \text{Beta}_2 * \text{PL} + \text{Beta}_3 * \text{DL} +$$

*Beta<sub>1</sub>, Beta<sub>2</sub>, Beta<sub>3</sub>: Standardized coefficient*

### **Analysis of variance (ANOVA)**

Being used to test the suitability of the model. If sig. $<0,05$ , the model is considered suitable [Nguyen Dinh Tho (2014)]. In this study, the suitability is tested by Adjusted R Square and sig of F.

## **4. RESEARCH RESULTS**

In this study, the authors analyzed Cronbach's Alpha index for each group of variables, the results showed that the group of variables PL and DL are accepted; the NC variable is not accepted because the sum of the NC2 variable has a result of 0.174 (less than 0.3). After deleting the variable NC2, continue to check the Cronbach'Alpha coefficient. As a result, the total variable NT has been accepted.

**Test results Cronbach’Alpha:**

	Items	Item-total correlation	Cronbach’s Alpha if Item Deleted	Cronbach’Alpha	
1	NC1	.764	.915	<b>0,926</b>	Accept
	NC3	.785	.912		
	NC4	.778	.913		
2	PL1	.782	.957	<b>0,952</b>	Accept
	PL2	.800	.957		
	PL3	.811	.957		
	PL4	.807	.896		
3	DL1	.735	.912	<b>0,928</b>	Accept
	DL2	.873	.893		
	DL3	.844	.903		
	DL4	.846	.903		
4	TDX1	.778	.871	<b>0,899</b>	Accept
	TDX2	.866	.861		
	TDX3	.602	.812		

Source: SPSS

**EFA analysis for independent variables:**

N0	Component	Observed variables
1	NC - Green credit demand	NC4
		NC3
		NC1
2	PL - The legal regulation on green credit	PL1
		PL3
		PL4
		PL2
3	DL – Bank ‘s motivation for green credit	DL4
		DL1
		DL2
Total Variance Explained		74,95%
KMO		.827
Bartlett’s Test of Sphericity Sig.		6529.611 .000

Source: SPSS

The results show that:

- Coefficient KMO= 0.827 > 0.5 and sig=0.000 <0.05 so, the variables are correlated with each other and satisfy the conditions of factor analysis

- Factor loading > 0,5

- Total Variance Explained is 74,95% > 50%, so the observed variables are statistically significant.

**EFA analysis for dependent variables:**

Observed variables	Component
	1
TDX 1	.887
TDX2	.863
TDX3	.852
Total Variance Explained	71.92%
KMO	.860
Bartlett's Test of Sphericity	1669.244
Sig.	.000

*Source: SPSS*

KMO and Barlet test results show that KMO = 0,860, Barlet's = 1669,244 (sig. = 0,000), so observed variables are correlated with each other; Total Variance Explained is 71,92% (>50%), factor loading >0,5, so factor analysis is accept.

**Model Summary**

Model	R	R Square	Adjusted Square	R	Std.Error of the Estimate	Durbin-Watson
1	.774 <sup>a</sup>	.600	.584	.42853	1.78	

**ANOVA**

Model		Sum of Square	Df	Mean Square	F	Sig.
1	Regression	32.126	2	16.063	134.983	.000b
	Residual	9.206	77	.119		
	Total	51.772	81			

**Coefficients:**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
Hàng số	-1.038	.058		-17.264	.000		
NT	.182	.056	.088	3.187	.002	.571	.1746
PL	.147	.015	.276	10.433	.000	.634	1.567
DL	.138	.014	.241	10.55	.000	.867	1.144

*Source: SPSS*

The Coefficient table gives the t-test results to evaluate the hypothesis of the significance of the regression coefficient:

- The VIF index to evaluate collinearity Statistics: in this table, all index VIF <2, collinearity Statistics does not exit.

- The variables NT, PL, and DL all have sig. <0,05, so there are all statistically significant and affect the dependent variable.

**Model regression:**

$$TDX = 0,088 *NT+ 0,276 PL + 0,241DL +$$

Coefficients determine the degree of influence of independent variables on green credit performance:

- Demand for green credit affects 27.6% of green credit performance. An increase in this factor will increase green credit performance

- The legal regulation for green credit affects 8,8% of green credit performance. An increase in this factor will increase green credit performance

- Motivation for green credit affects 24,1% of green credit performance. An increase in this factor will increase green credit performance.

Therefore, the order of factors affecting green credit is green credit demand, bank's motivation for green credit, and green credit legal regulation.

**Hypothesis test results**

H1	Green credit demand has a positive impact on green credit performance	Accept
H2	Green credit legal regulation has a positive impact on green credit performance	Accept
H3	Bank's motivation has a positive impact on green credit performance	Accept

This study has shown the correlation relationship between the green credit demand, bank's motivation, and green credit legal regulations to the green credit performance in Vietnam commercial banks.

**6. DISCUSSION AND CONCLUSION**

Summarizing the analysis results, we propose some recommendations:

- Promote awareness of the green economy and green credit to businesses, and commercial banks again and to the public motivation of banks on green credit. Quantitative research results show that when businesses think about environmental protection, the green credit balance increase. So, that is the leverage for an increase in demand for green credit, thereby enhancing green credit performance. Therefore, it is necessary to promote the propagation of the green economy to the public.

- Quantitative research results show that commercial banks desire strengthens their brand through green credit, this is the bank's growth opportunity. This is the bank's motivation to offer green credit. Therefore, the State must appreciate commercial banks offering green credit and support banks when needed.

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# PARTICIPATING IN RICE VALUE CHAIN - CHALLENGE FOR VIETNAM'S RICE EXPORTS

PhD. Hoang Thi Phuong Lan<sup>1</sup>, PhD. Le Thi Mai Anh<sup>1</sup>

**Abstract:** *The promotion of agricultural products to become a key export product of Vietnam not only brings economic benefits to the economy, but also contributes to improving the position of Vietnamese products and enterprises in the world market. With the characteristics of labor-intensive and natural-intensive use, export rice products have many conditions to create a foothold for Vietnamese goods on the world map. However, the Covid-19 pandemic has revealed the weaknesses of production and export activities once again. In the article, the authors select rice product for analysis. Within the framework of value chain research, this article sheds light on the limitations of each activity in the chain, especially under the impact of the Covid-19 pandemic as well as recent changes in the world economy. Through the specific analysis of backwards, the authors make an assessment of the causes leading to this situation.*

**Key words:** *rice value chain, value chain disruption, Covid - 19, challenges*

## I. INTRODUCTION

A value chain disruption is defined as “disturbance or problems that interrupt an activity, a phrase in the chain (it can be an activity to supply input materials, and it can also be an activity of production, processing or distribution, consumption, etc.). The value chain is a collection of closely related activities, so if an activity, or even a stage is interrupted, it will affect other activities, thereby breaking the value chain.

The disruption of the value chain will affect all segments of the value chain including: suppliers of inputs, manufacturers, exporters, carriers, distributors/ retailers.

The disruption of the value chain may be short-term (change in input supply, the consumer market refuses to retail, distribute goods; natural conditions disrupt the shipping process, etc.); but can also be long-term (pandemic occurs). This situation appears in many products in the industrial sector, especially in the processing and manufacturing industry. The value chain of industrial products is dominated by international companies, so it is quite dependent on the world market, and the possibility of chain breakage is higher than that of other industries and sectors. With agricultural products, due to their dependence on natural and social conditions, the possibility of chain breakage is not low. Moreover, if for the processing industry, the ability to overcome the situation of chain breakage can be realized through the diversification of segments, then for the

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agricultural sector, the limitation as well as the overcoming of the situation can be achieved. The value chain disruption is more complex, harder to solve.

In the 2019 - 2022 period, the world has witnessed a global pandemic - COVID-19 and Russian - Ukrainian war have far-reaching effects on every sector and every country. The global food industry as well as Vietnam's rice exports have been facing difficulties in the rice value chain at many stages and in many areas, threatening the instability of production - export of global rice products.

## **II. RESEARCH CONTENTS AND METHODOLOGY**

### **2.1. Research contents**

- Current status and manifestations of rice value chain disruption in the context of the COVID-19 pandemic as well as Russian - Ukrainian war
- The impact of the rice value chain disruption on Vietnam's rice export activities
- Identify limitations in the ability to deal with challenges in rice value chains

### **2.2. Methodology**

The research method used by the author is qualitative. This is a suitable research method in the field of social sciences, and does not require research costs, especially with rich, diverse and reliable research materials. The authors used specific qualitative research methods in the research process as follows:

Case study research method: the authors choose a case study method to analyze and evaluate the phenomenon of value chain disruption in the Mekong Delta. The case study method provided deep and thorough insights into the data collection and data inference methods used in the research process.

Process of observation: The focus of qualitative observation is the research process that uses subjective methods to collect information or data. Qualitative observation is mainly used to equate differences in quality

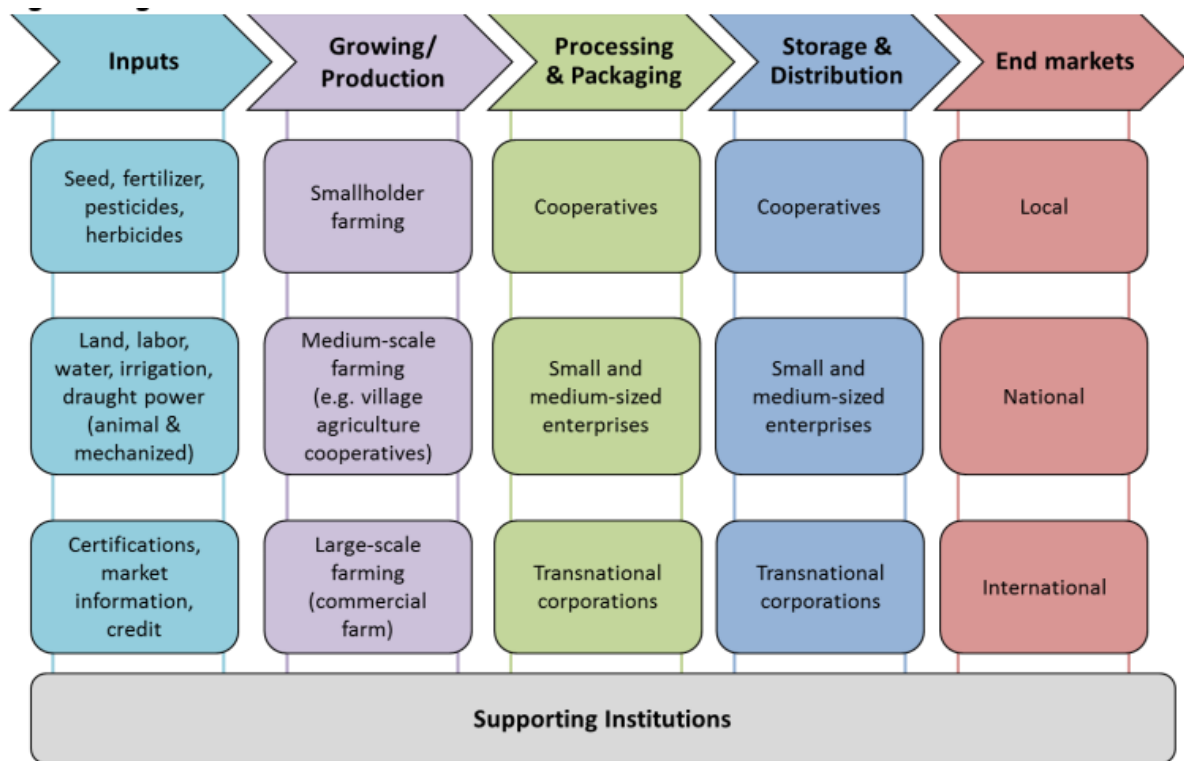
With the results of the above research methods, the author has conducted qualitative data analysis such as notes, images and text documents. In which, the method used by the author to analyze qualitative data is mainly text analysis. This is also a commonly used method and is being shared widely across social media platforms.

## **III. RESEARCH RESULTS AND DISCUSSION**

### **3.1. Rice value chain and breakdown of rice value chain**

A value chain describes the set of actors and full range of activities required to bring an agricultural product from production in the field to its final consumption (Figure 1). It examines industry - and location-specific input-output structures and related technologies, standards, regulations, processes, and dynamics in relationships among chain actors, and thus provides a systemic analytical lens that allows top down and bottom up assessment of industries (Gereffi & Fernandez-Stark, 2011). Figure 1 presents a typical rice value chain and identifies the relevant stages and actors.





**Figure 1: Rice value chain**

Source: based on Gereffi & Fernandez-Stark, 2011

When the rice value chain is broken, it means that one of the five activities in the chain is interrupted, or a detail or stage of a certain activity is interrupted, thereby breaking the chain. Specifically, the rice value chain disruption has the following manifestations:

i). Disruption of inputs stage: This stage includes seeds, fertilizers, pesticides, labor, land, water, etc. If the inputs depend on imports, natural fluctuations, or changes in social conditions, the disruption of input supply can completely occur.

ii). Disruption of growing and production stage: the participants in the stage can be small business households, medium and large-scale production farms. The ability of farming and production is affected by factors such as labor, machinery and equipment, spare parts, even related to the ability to access agricultural land, access to capital. Although the farming and production stage include many labor-intensive activities, the inability to mobilize capital and invest in machinery and equipment can have a potential to break the value chain.

iii). Disruption of processing and packaging stage. The processing and packaging is an activity that increases the value of agricultural products, and at the same time clearly reflects the relationship with the growing and production stage. The interrupted connection between processing stage and production stage can also break the value chain. Due to the seasonal nature of agricultural products, the subject of processing and the subject of farming and production has a long-term relationship, so it is difficult to find a replacement in the value chain.

iv). Disruption of storage and distribution stage: the characteristics of agricultural products require very strict preservation. Therefore, in order for the storage and distribution stage to achieve

good results and increase value in the whole chain, the infrastructure for this stage must be good. Similar to the processing and packaging stage, the storage and distribution stage have a long-term and close relationship with the production and processing stage.

Distribution stage is also heavily influenced by socio-economic fluctuations such as civil war, strikes, demonstrations, blockades and isolation taking place in many localities and countries. These problems directly impede distribution operations - causing value chain disruptions.

Finally, disrupt retail activity to the end consumer. The problem of disrupting and then breaking the rice value chain can occur not only in the domestic market but also in the world market. However, if the rice value chain is disrupted in the domestic market, the interventions of the government and local authorities can make the disruption quickly remedied. With the situation of rice value chains being interrupted and broken in the world market, it is difficult to overcome and may take longer. This is mainly because there are many parties in many different countries participating in the chain, so it is more difficult to find a common solution that can harmonize the interests of the participants. It requires a lot of time for negotiation.

### **3.2. Challenges for Vietnam's rice exports**

#### *- Challenges in input supply stage*

The supply of inputs in Vietnam's rice value chain is mainly related to the supply of fertilizers. Fertilizer supply for rice production comes from both domestic producers and importers. However, due to the fact that fertilizer production is heavily influenced by energy supply, fluctuations in the global energy market also have a huge impact on fertilizer supply prices for rice cultivation.

In rice cultivation, fertilizer sources used include Urea, DAP and NPK fertilizers. From the end of 2020 until now, the prices of all three fertilizers have continuously increased, especially since the beginning of 2022, fertilizer prices have peaked, setting the highest level in about 50 years. Currently, fertilizer prices are at more than 16-18 million VND/ton depending on the type.

The cost of fertilizer accounts for more than 40% of input value, so the high fertilizer price will directly affect the price of agricultural products.

Fertilizer prices are also expected to prolong the price increase cycle due to the impact of the world fertilizer market. The price of input materials for fertilizer production increased due to the influence of energy prices, higher shipping costs, Russian-Ukrainian war and the Covid-19 epidemic, which created many costs that were not available before.

#### *- Challenges in purchasing and processing stage*

Even in 2020 with 3 outbreaks of the Covid-19 epidemic, rice purchasing and distribution activities were not significantly affected. Meanwhile, in the fourth epidemic in 2021, these sectors were heavily affected, disrupting rice purchasing and distribution activities.

The Mekong Delta region has faced many difficulties in rice consumption, as it is entering the summer-autumn rice harvest 2021 at the right time when 19 southern provinces and cities apply social distancing according to Directive No. 16/CT-TTg of the Prime Minister. The application of Directive 16 has led to congestion in the circulation of goods from the field to the factory and from

the factory to the export ports. In addition, due to a serious shortage of seasonal labor force, strict epidemiological conditions for workers to fight the epidemic, making it difficult for rice boats to move from one area to another.

Moreover, the transportation of rice from the field to the factory was interrupted, leading to a backlog of untreated fresh rice, reducing the quality of the rice. Traders lacked raw materials to process finished rice, affecting the implementation progress of previously signed export contracts.

Businesses purchasing, processing and exporting rice are also facing difficulties in transporting and supplying goods. The Vietnam Food Association said there are 120 member businesses with 90 traders. However, since the implementation of distance and production according to the “3 on-site” option, about 50% of them have temporarily stopped working, the rest have reduced their capacity by 50%. (Cuu Long, 2021).

With the situation of rice purchasing and processing activities stalled for a long time, which threatens to greatly affect domestic supply as well as export, on August 10, 2021, the State Bank issued a document 5747/ The State Bank of Vietnam (SBV)-TD proposed commercial banks and branches of state banks in provinces and cities in the Mekong Delta region to ensure credit capital for the purchase and temporary storage of rice in various forms. That is to expand the credit limit granted to traders and businesses to have capital to purchase and temporarily store rice; accelerate reform, simplify internal processes and procedures, shorten loan approval time; diversify suitable credit products.

In 2022, rice purchasing and processing activities have prospered. In addition to the difficulties caused by the implementation of the zero covid policy in the Chinese market, rice production and processing activities thrived, especially the inauguration of the Hanh Phuc Rice Factory in An Giang province. The factory has the largest scale in Asia with an area of 161,000m<sup>2</sup>, drying capacity of 4,800 tons of fresh rice and 1,600 tons of dry rice/day; the total capacity of finished rice is 1,000 tons/day (Minh Điền, 2022).

However, it must be mentioned that Vietnam’s rice industry has no products that are deeply processed from rice. Typically in Thailand, in addition to selling rice, they also sell nearly 30 products made from rice such as drinking water, soap, lipstick, etc., which are priced dozens of times higher than raw rice, creating more jobs. work and increase income for farmers. In Vietnam, some enterprises in Ho Chi Minh City only produce rice cakes.

#### *- Challenges in distribution and export*

In the period of July-September 2021, transportation from processing plants to export ports faced many difficulties when in some localities, traders, public drivers, combine harvester drivers required to have a negative test for Covid-19. However, this certification is only valid within 72 hours, which is not enough time to transport goods from provinces and cities in the Mekong Delta to ports in Ho Chi Minh City.

Regarding the rice export port, rice export activities are mainly from the granaries in the Mekong Delta and go through Saigon Newport. However, in the first 3 months of 2021, rice exports through the port system of Saigon Newport Corporation (SNP) dropped sharply, reaching only 17,958 TEUs, down 10,831 TEUs, equivalent to a decrease of 37.62% compared to the same

period of last year (Phong Nguyen, 2021). From July 2021, due to the serious development of the Covid-19 epidemic, Saigon Newport, the main container port, stopped receiving delivery of exported rice; Meanwhile, at Cat Lai port, a large amount of stagnant containers also affected the delivery of goods.

Even when rice export ports reopen, rice export activities still have to deal with a shortage of empty containers and high container freight rates. Due to the impact of the COVID-19 epidemic, from about mid-2020, empty containers for rice exports began to be scarce due to the delay and prolonged rice delivery in China and Africa markets. The increase in container rental prices has led to an increase in the cost of waiting for loading and unloading at foreign ports, resulting in a much higher logistics cost than usual.

The scarcity of empty containers for rice exports became the most acute in the first two months of 2021, causing a sharp decline in the country's export rice output. Loc Troi Group - one of the 5 largest rice exporters in Vietnam also fell into a difficult situation because its distribution activities were disrupted due to the lack of empty containers. Typically, in December 2020, the Group planned to export 40 containers of rice to Europe, Canada, Ghana and so on. However, in fact, the Group only exported 20 containers of rice, down 50% compared to the plan. The remaining 20 containers are brought to the warehouse for storage to be imported together with the export plan in January 2021, a total of about 100 containers. (Navilink, 2021).

This fact is very clearly reflected in the fluctuation of rice export activities in 2020 and 2021. Faced with the scarcity of empty containers for export in general and rice export in particular, many domestic enterprises have focused on investing in producing empty containers for the domestic market. Thanks to that, through March 2021, the shortage of empty containers for rice exports started to cool down and is getting better in April 2021. Accordingly, the disruption of rice export activities has been resolved, leading to an increase in the export value of rice in the following months.

In the first quarter of 2022, the country's rice exports reached over 1.5 million tons, equivalent to over 730.76 million USD, up 26% in volume, up 12.7% in turnover compared to the first quarter of 2021, the average price reached 486.2 USD/ton, down 10.6%.

In the first quarter of 2022, rice exports to most markets increased sharply compared to the first quarter of 2021. Export to RCEP FTA markets reached 967,596 tons, equivalent to 459.92 million USD, up 23.8% in volume and 9.8% in turnover. Exports to FTA CPTTP markets reached 116,560 tons, equivalent to USD 57.72 million, up 4.7% in volume but down 6.5% in turnover. In the first quarter of 2022, the country's rice exports reached over 1.5 million tons, equivalent to over 730.76 million USD, up 26% in volume, up 12.7% in turnover compared to the first quarter of 2021, the average price reached 486.2 USD/ton, down 10.6%.

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### **3.3. Causes of challenges for Vietnam's rice exports in rice value chains**

#### **3.3.1. Objective reasons**

The breakdown of the rice value chains mainly comes from objective causes, specifically here due to the Covid-19 pandemic and recent changes in the world economy such as Russian-Ukrainian war, global climate change. The sudden and prolonged Covid-19 pandemic has caused the agricultural value chain in general and the rice value chain in particular to have no timely adaptation in the first 1-2 waves of the epidemic. The Covid-19 pandemic has an immediate effect on farming, production and processing activities because the government of countries implements the lockdown, the spread of the pandemic into many stages and layers between countries in the world. That makes the disruption of export and distribution activities longer and more difficult to solve.

Moreover, the war between Russia and Ukraine led to a continuous increase in energy prices, affecting input prices of rice production. Besides, the global food market is also affected by supply difficulties arising from these two countries. These are the causes leading to the difficulties in maintaining the competitiveness of Vietnam's rice exports - a labor-intensive and natural resource - intensive product.

#### **3.3.2. Subjective reasons**

In the value chain research framework, it is easy to identify the internal causes leading to the broken rice value chain of Vietnam, which still accounts for a significant proportion. Moreover, this is not only a subjective cause leading to the breakdown of the rice value chain, but also causes the unsustainability of agricultural export activities in general.

*Firstly, rice export activities are too concentrated in a few markets*

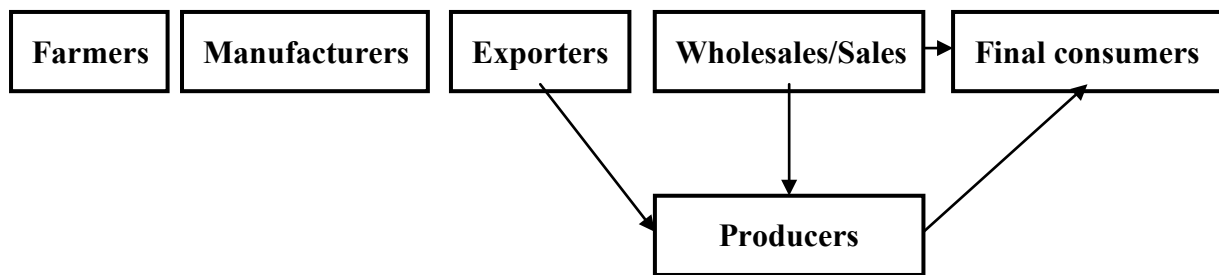
The deeper the participation in the world economy, the more domestic production and business activities depend on foreign markets. This is an objective necessity that Vietnam's agricultural export activities cannot avoid. However, in order to reduce this dependence as well as to prevent the interruption of export activities from a particular market, the diversification of export markets is really necessary. However, the reality of rice and seafood exports is still too concentrated in a few markets.

Specifically, with rice export activities, the overwhelming focus on the Chinese market is a testament to the weakness in trade promotion, distribution and export activities. The history of rice exports to China over the years shows that every time China imports rice, the domestic price of rice keeps increasing, and exporters cannot buy it in time for delivery.

The situation of breaking commitments, compensating contracts, and suffering huge losses also often fall into the cycles that China participates in buying. When China stopped importing, rice exporters fell into the "afternoon market". Therefore, it took a long time to restore abandoned markets (Vo Hung Dung, 2020). Along with Thailand and Pakistan, Vietnam is one of the three big and traditional countries where China imports rice. However, in the group of 3 major rice exporting countries to China, Vietnam accounts for a larger proportion, even accounting for more than 50% of the value of China's imported rice.

*Secondly, the export of rice has low added value*

In fact, 85% - 90% of Vietnam's agricultural exports must go through intermediaries with foreign brands (An Thi Thanh Nhan, 2021). Most of Vietnam's agricultural exports must be branded with commercial intermediaries in the host country's market. Many exporters in the Mekong Delta said that in a year, enterprises must attach no less than 10 foreign trademarks to their own products, even some enterprises have this number up to over 20. An Thi Thanh Nhan, 2021). In other words, Vietnamese agricultural products are mostly participating in global value chains but do not have a brand name, so they only sell the tangible part for about 25% of the total selling price to the final consumer.



**Figure 2: Vietnam's export agricultural supply chain**

In Vietnam's rice export market development strategy for the period 2017-2020, with a vision to 2030 approved by the Government, by 2020 the output of low- and medium-grade white rice will be adjusted to less than 20%. High-grade white rice is about 25%, increasing the percentage of fragrant rice, specialty rice, Japonica rice to 30%, sticky rice 20% and other value-added rice products about 5%. However, in fact, in the first 5 months of 2021, the export value of white rice still accounts for 39.90% of the total turnover; jasmine rice and fragrant rice accounted for 39.88%; sticky rice accounts for 17.47%; japonica rice and Japanese rice varieties accounted for 2.66%, while other types of rice accounted for 0.08%.

The state's target of increasing the value of exported rice through changing the type of rice exported has not been achieved. In fact, Vietnam's rice exports are still mainly exported as "unbranded bagged goods". This is because Vietnam's rice exporters still focus on low-end markets with low value, export goods are packed in 50 kg/bag or container, so they do not have a brand name.

Rice is divided by grade with broken rice ratio such as 5%, 10%, 15% or 20% broken rice. Recently, there have been more high-class rice varieties such as fragrant rice, parboiled rice, etc., but the main export method is still in the form of 50kg bags (Tran Manh, 2019).

*Thirdly, Vietnamese exporters have limited relationships with foreign wholesalers and retailers*

Foreign wholesalers and retailers are more confident when buying from domestic importers than buying directly from Vietnamese exporters, although buying directly from Vietnamese enterprises will be cheaper. However, agricultural products are goods that directly affect consumers' health, so it is risky not to buy from acquaintances. Moreover, importers have spent a lot of resources on branding, building trust with wholesalers, retailers and end consumers. It takes at least 5 years for a particular brand in the host country to be established.

For example, in the African market, Vietnam's exported rice is being exported under the label of Olam International - a global agribusiness enterprise. Olam introduced Vietnamese Jasmine rice to the African market in the early 2000s. Vietnam's Jasmine rice has enjoyed rapid growth in the African market but under Olam's well-known brands such as: "Royal Aroma" and "Royal Feast" (Quang Tri, 2020). Therefore, it is a safe choice for manufacturers and exporters of Vietnamese agricultural products in general and rice and seafood in particular to choose to export goods under the brand name of foreign importers. However, this approach has made the added value related to distribution, marketing and branding not belong to Vietnam. Especially, the name "Vietnamese rice" or "Vietnamese seafood" is completely not positioned in the world consumption market.

*Fifthly, rice export activities lack linkage*

Regarding agricultural products in general and rice and aquatic products in particular, production and business activities can be carried out according to the model of vertical and horizontal linkage.

Horizontal linkage is the link between members at the same level in the production chain, farmers in clubs, cooperative groups, cooperatives, provincial farmers' associations, cooperative unions.

Vertical linkage is a link between two or more participants in the value chain through agricultural contracts guaranteed by law, such as linkage between input suppliers and producers, linkage between producers and suppliers, linkage between raw material manufacturers and processing companies. Both forms of association can increase benefits for stakeholders through larger production scale, consistent product quality, lower input costs, timely information provision, and responsiveness. requirements and quality of the market.

In particular, the form of multi-house linkage includes technical support from institutes, universities, agricultural extension officers, input material supply companies, processing companies on trade promotion, capital support from banks, and policies from local authorities at all levels, etc. This linkage model helps the chain to develop sustainably on a large scale, by promptly and effectively solving problems arising from the outside and weaknesses inside the chain.

Although there are many benefits when forming links, by the end of September 2019, the whole country has only 1,478 linkage chain models, of which, there are only 9,235 linked chain models related to agriculture. Vietnam has 8.6 million farming households engaged in agricultural production. However, only over 25.5 thousand households participate in production linkages with VietGAP certified production units and 619.3 thousand households participate in production linkages in large fields, the rest still production in the direction of spontaneity, fragmentation, and small (Bảo Phương, 2019).

The advantage of an abundant labor force as well as the diverse natural conditions of the region's soil create favorable conditions for the production of many kinds of valuable rice. However, the above advantages are only effective when cultivating under the association model. When enterprises associate with farmers to produce on a large scale, the products produced will have uniform quality, traceability, and stable sources of goods.

Typically, in 2012, An Giang purple brown rice and green leaf sticky rice were successfully exported to China at the price of \$1,500/ton of purple rice and \$700/ton of sticky rice. From 2017

until now, Japonica rice that meets the requirements of field traceability has been exported to Korea at a price of over 700 USD/ton. Obviously, these are desirable export prices if compared with the average export price of Vietnam's 5% broken white rice, which is only around \$500/ton (Bảo Phương, 2019). However, with the fact that the production model is very small, most of the exported Vietnamese rice is of low quality and low added value.

#### IV. CONCLUSION

Over the past three decades, the rice value chain has been restructured, characterized by market liberalization, increased consolidation, and the rise of concentrated buyer power in post-production segments of the value chain. These changes transformed the way rice production and trade functioned. The sourcing strategies of global brands and retailers now largely determine the conditions for production process and products in the rice value chain. Following the adoption of liberalized policies, the centers of research and development also shifted from public institutions to private businesses. In this context, farming is considered as a business and the production signals are derived from requirements by global brands and retailers. The constellation of the value chain actors and the business development services, however, supports information flow and the generation of knowledge about the production technologies, thus, largely influencing patterns of innovation in rice value chains.

In 2022, although Vietnam's economy is entering a phase of gradual stabilization, difficulties and challenges remain. Some recommendations to limit and overcome disruption at some activities in the rice and seafood value chain are as follows:

*Firstly*, promote the export of rice products to markets where Vietnam is enjoying great tariff preferences. Especially promoting agricultural exports to markets where the market share of Vietnamese agricultural products is still modest like the EU market through incentives from EVFTA, Canada through incentives from CPTPP.

*Secondly*, promote the linkage model in production - processing - export together with the application of high technology

In order to apply high technology to production and processing activities, it is necessary to replicate the linkage model and promote cooperation in the value chain. Some linkage models such as Loc Troi, Dong Thap clean rice, Soc Trang, Quang Tri organic rice... have had certain successes that need to be promoted and replicated more again.

*Thirdly*, build and develop brands and trademarks of agricultural products.

Vietnam needs to restructure the rice industry with the top priority goal of building a brand. The output of rice products is mainly exported from the Mekong Delta. Therefore, the Mekong Delta needs to play the role of a place to develop and test standards for quality, brand, and origin of Vietnamese rice.

In order to limit and overcome difficulties caused by the breakdown of the value chain, the proactive and prerequisite solution is still the initiative and readiness of activities taking place in the domestic market. When the activities of input supply, farming, production and processing in



the country are stable in both quality and quantity, the initiative when participating in the value chain also increases, thereby limiting disruptions.

In addition, the State's institutional support, commitment to preferential tariffs create opportunities for businesses to boost exports and diversify markets to limit the disruption of distribution and export activities./.

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# FACTORS AFFECTING THE CAPITAL STRUCTURE OF LISTED FOOD AND BEVERAGE COMPANIES IN VIETNAM

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**Abstract:** *This study aimed to examine the firm-specific factors affecting the capital structure of the listed food and beverage companies in Vietnam, including profitability, firm size, tangibility of assets, liquidity, growth opportunities and tax. The research analyzed a sample of 29 food and beverage companies listed on the Ho Chi Minh Stock Exchange (HOSE) and Hanoi Stock Exchange (HNX), from 2017 to 2021 by using panel data regression models such as Pooled OLS, FEM, REM and FGLS. The results indicate that profitability, growth, liquidity and tangibility of assets strongly influence the company's capital structure. While profitability, liquidity and tangibility of assets negatively affect the capital structure, growth has a positive relationship with the capital structure. In contrast, firm size and tax do not significantly affect the capital structure. Moreover, the implications of the pecking order theory are suitable for the food and beverage industry in Vietnam.*

**Keywords:** *factors, capital structure, food and beverage companies, Vietnam.*

## 1. INTRODUCTION

The food and beverages industry has been one of the fundamental and long-standing industries in the economy of Vietnam since it provides the necessities of life. According to a report conducted by Phu Hung Securities, the total estimated consumption value of food and beverages in Vietnam in 2021 reached VND 816 trillion, which accounts for approximately 13% of GDP. In fact, Vietnam has a high population growth rate (approximately 0.91-1.03% in the period 2017-2021) as well as young population. Moreover, the living standard of citizens is gradually improving, which results in increasing consumers' demands for food and beverages. Therefore, this industry is considered to have a lot of development potential in the future, with a projected growth rate of 5%-6%/year from 2020 to 2025. Hence, it is critical for food and beverage companies to operate efficiently in order to develop further and meet the increasing consumers' needs.

However, the Covid-19 pandemic has had negative impacts on the food and beverage industry, causing firms to reduce output as consumers are on tight budgets. Many companies have encountered numerous difficulties such as supply chain disruption, prices of raw materials, and

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declining product consumption, which resulted in financial distress and even bankruptcy. It is estimated that more than 91% of businesses have been severely affected due to the prolonged impact of the pandemic (Minh, 2022). In times of difficulties, food and beverage firms have taken measures to overcome the situation by adapting to consumers' needs, minimizing production costs, reconstructing the distribution, etc. Besides, it is important for many companies to be concerned about the efficiency of operation and financial management, especially capital management. Therefore, the study of factors affecting the capital structure of the companies is vital.

Decisions of selecting sources of funding are crucial for every business as it related to the continuation of the operation and evaluation of business performance. A company will be funded by debt and equity, and the combination of these two sources, also known as capital structure, could have important implications for the firm value and cost of capital (Abeywardhana, 2017). Maximization of firm value is challenging since it involves the choice to keep the balance of debt and equity, which required finance managers to take into account the costs and benefits attached to different capital sources (Pratheepan & Banda, 2016). Moreover, the capital structure changes due to the characteristics of each business and industry, management behaviors, macroeconomic indicators, as well as culture of different countries. Therefore, managers are more concerned with the factors influenced the capital structure to evaluate the appropriateness of the decision-making, as well as maximizing firm value (Dung & Thanh, 2019).

The study will use quantitative and deductive research approaches to examine cross-sectional secondary data collected from reliable sources of financial information.

This paper is divided into 5 parts. The first part is Introduction, which including brief introduction of the food and beverage industry in Vietnam and the capital structure, the objective of the study and research method. The second part is Literature Review, which contain review of basic capital structure theories and previous empirical studies. Research design is the following part and it describes the data, hypotheses and research methodology used to achieve the objective of the research. Part 4 of this study is Results and Discussions, which is a description of the results of the research and hypothesis testing. Finally, part 5 is Conclusions, which is s summary of the research findings and what was accomplished to solve the research problem.

## **2. LITERATURE REVIEW**

### **2.1. Theoretical basis**

#### **2.1.1. Modigliani and Miller theory**

According to Abeywardhana (2017), the starting point of the modern theory of capital structure is the Capital structure irrelevance theory of Modigliani and Miller (1958). The assumption that capital markets are perfect was central to the M&M theory. A perfect market is described as a market without transaction cost, bankruptcy cost, and taxation, and all investors (both insiders and outsiders) receive the same relevant information at the same time for decision-making, meaning that there is no asymmetry of information. All firms and individuals could borrow and lend at the same interest rate. Under these assumptions, the M&M theory stated that the firm value is irrelevant to the capital structure of the firm. Thus, the capital structure does not affect the shareholders'

wealth and there is no optimal capital structure, hence, the composition of debt and equity is not an issue that managers need to concern (Abeywardhana, 2017).

However, due to the unrealistic nature of the assumptions, Modigliani and Miller (1963) continued to develop their theory by incorporating the effect of corporation tax on cost of capital and firm value. In a capital market with corporation tax, debt finance will be more affordable than equity due to tax deductibility of the interest payments. Therefore, increasing gearing will lead to the lower WACC and increasing firm value. Owing to the tax shield, the value of levered firms is higher than all-equity firms.

The unrealistic assumptions of the M&M theory led to other research and theories that contribute to the capital structure theorem.

### **2.1.2. Pecking order theory**

The pecking order theory was developed by Donalson (1961), which suggests that there is a well-defined order of preference with respect to sources of finance available to it. Companies prefer using internally generated funds (Retained earnings) rather than external sources of finance as it is readily accessible. If the internal finance is insufficient, firms will approach debt capital such as bank borrowings and corporate bonds and the last resort is issuing equity capital since the cost of raising debt is much lower than the cost of issuing new equity.

Following the findings of Donalson (1961), Myers (1984) proposed the pecking order theory with the idea of asymmetric information, which suggested that the existence of asymmetry of information between the firm insiders and outsiders explained the preference order of choosing sources of finance. Thus, internal capital is primarily used as it could eliminate the asymmetric information risk. External investors require a high return rate to compensate for the risks owing to the poor available information. Moreover, an announcement of a new share issue is referred as a negative signal, which would result in a decrease in stock price. Therefore, several firms preferred to avoid the capital market (Pratheepan & Banda, 2016).

Myers (2001) found out that firms that generated higher profits tend to finance their investments with retained earnings rather than debt financing. Moreover, firms with higher growth opportunities would also use lower debt. Companies with significant growth opportunities are considered the more risky company and encounter difficulties in raising debt, meaning that they have lower debt in the capital structure than businesses with projected constant growth.

### **2.1.3. Trade-off theory**

The trade-off theory is an important capital structure theory proposed by Kraus and Litzenberger (1973). It is suggested that firms can obtain the optimal capital structure at which marginal benefits of debt finance (arising from tax shield) equal to its marginal costs (costs of financial distress). As debts increases, firms benefit from the interest tax shield, and the WACC of the firm decrease until it reaches the optimal leverage level which increases the firm's profits. However, the cost of financial distress and the risk of bankruptcy could also increase along with the rise of debt financing (Arnold, 2008). In the trade-off theory, the cost of debt is linked with both the direct and indirect costs of bankruptcy. The direct cost of bankruptcy includes the cost of

compensation for lenders for higher bankruptcy risk. It also includes the cost of paying lawyers and accountants to manage the liquidation process if the company went into liquidation. The indirect cost of bankruptcy includes loss of sales and goodwill as a result of operating the firm during the financial distress as well as the loss from selling assets below the market value if the company went into liquidation (Watson & Head, 2010).

According to the M&M theory, the firm value increases along with the rise in debt capital in the capital structure. However, this theory is based on the assumption that there is no financial distress in the business. This weakness has been resolved by the trade-off theory.

## **2.2. Review of empirical studies**

Ariyani, et al. (2018) examined the effect of firm-specific factors on the capital structure of 52 manufacturing companies listed on the Indonesia Stock Exchange from 2013 to 2017. The results show that profitability and company growth have a negative impact on the capital structure while the opposite was true for firm size. On the other hand, asset structure has a negative but not significant impact on the capital structure. Basri, et al. (2019) investigates the firm-specific determinants of the capital structure of 8 listed food and beverage firms in Malaysia from 2013 to 2018. As a result, profitability and tangibility of assets have a positive significant relationship with the debt to equity ratio. Meanwhile, asset growth and liquidity were insignificant to the capital structure. Another paper from Mujiatun, et al. (2019) tested the influence of profitability and asset structure on the capital structure of Sharia-based manufacturing companies listed on the Indonesian Stock Exchange for the period of 2016 to 2019. The findings indicate that both profitability and asset structure have a positive and significant impact on the capital structure.

The aim of the research conducted by Salim and Susilowati (2019) is to analyze the effects of profitability (ROA), asset growth, firm size and liquidity (CR) on the capital structure (DER) and the impact on firm value (PBV), with a sample of 17 food and beverage companies listed on the Indonesia Stock Exchange for the period 2013-2017. They came to a conclusion that the profitability and firm size have a negative but not significant impact on the capital structure, Meanwhile, the liquidity and assets growth have a negative and significant effect on DER. Moreover, the capital structure was discovered to have positive but insignificant influence on firm value. Pratheepan and Banda (2016) collected data from 55 companies listed on the Colombo Stock exchange (CSE) from 2003 to 2012 to examine factors affecting the capital structure of companies in Sri Lanka. The empirical results of this study indicate that there is a negative significant relationship between profitability and leverage while firm size and growth show a positive relationship with leverage. However, non-debt tax shields and tangibility were discovered to have insignificant impact on leverage. Furthermore, the implications of the pecking order theory are suitable for the Sri Lanka context.

The above research only examined the impact of firm-specific factors on the capital structure without mentioning the external factors. However, the research conducted by Li and Islam (2018) demonstrate the importance of both firm-specific and industry-specific factors in leverage decisions. It investigated that firm size is positively and significantly related to leverage while profitability has negative effect on the leverage. For industry-specific factors, GDP contribution, Tobin's Q and industry average growth influence the corporate capital structure.

Besides, there are numerous studies conducted in the case of Vietnam. Thang (2019) evaluated the influence of elements in determining the capital structure of 40 food manufacturing companies listed in the Stock Exchanges of Vietnam from 2011 to 2018, in accordance with the pecking order theory. The asset structure, growth and firm age are suggested to have a positive and significant correlation with the company's capital structure while firm size and profitability are considered to have negative impacts on the capital structure. The solvency is not sufficient to conclude its influence in determining the capital structure. In addition, the capital structure of food manufacturing companies in Vietnam is suitable for the pecking order theory. Another research from Trang and Thanh (2021) examines factors affecting the capital structure of 23 pharmaceutical-medical companies listed on Vietnam's Stock Exchange in the period of 2016-2020. The research results show that profitability, tangible assets, firm size and liquidity have negative effects on the capital structure. Meanwhile, only growth opportunities have a positive relationship with the capital structure. However, firm age and pluralist executives variables do not have statistical meaning. Based on a sample of 203 listed enterprises on Vietnam's Stock Exchange (HOSE, HNX) for the period of 2008-2018, Dung and Thanh (2019) revealed that profitability, fixed assets/total assets ratio, and firm age negatively affect the capital structure. On the other hand, firm size and growth rate positively influence the company's capital structure. Moreover, corporate income tax and business ownership type do not affect the capital structure. In contrast with the research conducted by Dung and Thanh (2019), Anh and Yen (2014) pointed out that tax has a negative impact on the capital structure. The results also indicate that firm size and profitability have significant and positive impacts on capital structure.

Besides the firm-specific determinants, Bao (2020) also identified external factors affecting the capital structure of the food and beverage firm listed on the Ho Chi Minh Stock Exchange from 2011 to 2018. The results indicate that current ratio, asset turnover, profitability, inflation, and GDP negatively influence the capital structure whilst firm size and interest rate have a positive relationship with capital structure.

### **3. RESEARCH DESIGN**

#### **3.1. Source of data**

The data used in this study is secondary data collected from the audited financial statements of 29 food and beverage companies listed in Stock Exchange of Vietnam (including HOSE and HNX) for the period of 2017-2021. Data was also obtained from creditworthy websites: <https://vietstock.vn> and <https://cafef.vn>. The collected data was in the form of panel data with two dimensions: Companies (29 companies) and year (2017-2021). There were 145 observations in total. STATA program is used for data processing and statistical analysis.

#### **3.2. Data analysis**

In this paper, the collected data is processed using descriptive statistics and panel regression analysis with four estimation models: pooled ordinary least square (Pooled OLS), the fixed effects (FEM), the random effects (REM), and the feasible generalized least square (FGLS). The F-test is applied for selection between Pooled OLS and FEM. The Hausman test will be carried out for

the selection between FEM and REM. Simultaneously, several tests and quantitative methods are applied to overcome the defects of models. The variance inflation factor (VIF) is used to check multicollinearity while the Modified Wald test is used to check heteroskedasticity and the Wooldridge test is used to identify autocorrelation. Finally, FGLS is used to overcome the heteroskedasticity and autocorrelation that existed in the selected model.

### 3.3. Variables and hypothesis

- **Dependent variable**

This study used the debt-to-equity ratio (Total debts/ Total equity) to measure the level of debt usage to total shareholders' equity owned by the enterprise. This measurement was also used by Ariyani, et al. (2018), Basri, et al. (2019), Mujiatun, et al. (2021), Anh & Yen (2014).

- **Independent variables**

**Profitability:** Profitability means the company's ability to make a profit. The profitability ratio used in this research is the return on asset (ROA). There are contradicting theoretical predictions of the effect of profitability on the capital structure. The pecking order theory states that firms prefer to finance their investment with internal sources than external sources. Therefore, the more profitable firms tend to use less debt financing, which implies that there is a negative correlation between profitability and capital structure. Adversely, the trade-off theory argues that profitability has a positive correlation with the capital structure since firms with higher profitability tend to use more debts as it could provide tax shield on the interest payment. Although there are opposite predictions of the relationship between profitability and capital structure, a majority of previous studies found a negative influence, including studies conducted in the case of Vietnam. Therefore, the hypothesis is:

**H1:** *Profitability has a negative correlation with the company's capital structure.*

**Firm size:** This factor is measured by the natural logarithm of the total assets of the enterprise. There is a positive relationship between firm size and leverage according to the trade-off theory. Large enterprises are more diversified and the possibility of bankruptcy is low, thus, they will borrow more debt. On the other hand, small firms tend to borrow lower debts since they have higher risks of bankruptcy when facing financial distress. (Shahar & Manja, 2018). In the case of large firms, the pecking order theory also assumes that firm size is positively related to leverage. This is because the information asymmetry issues could be reduced as large firms are more diversified and have stable cashflows (Onofrei, et al., 2015). Empirical studies by Ariyani, et al. (2018), Li and Islam (2018), Jaworski, et al. (2019), Pratheepan and Banda (2016), Dung and Thanh (2019), Anh and Yen (2019), Bao (2020) also identified a positive relationship between firm size and the leverage. Therefore, the hypothesis is:

**H2:** *Firm size has a positive correlation with the company's capital structure.*

**Growth:** Growth means opportunities for expansion and enhancement of a business through the use of new investment (Basri, et al., 2019). Company growth can be measured by the growth in total assets. According to the trade-off theory, growth opportunities are negatively correlated to the leverage, meaning that growth firms tend to use less debts due to the increased probability of

bankruptcy cost (Shahar & Manja, 2018). However, the pecking order theory denotes that there is a positive relationship between growth and capital structure owing to the fact that good business growth requires greater capital to finance its operations. Hence, as the internal sources can not meet the required capital, there is a need for external financing and firms will prioritize the choice of loans based on the order preference (Basri, et al., 2019). This positive effect is supported by Thang (2019), Jaworski, et al. (2019), Pratheepan and Banda (2016), Trang and Thanh (2021), Dung and Thang (2019), Quynh et al. (2020). Therefore, the hypothesis is:

**H3:** *Growth has a positive correlation with the company's capital structure.*

**Liquidity:** Liquidity refers to a company's capability to convert short-term assets into cash without affecting the asset's value (Basri, et al., 2019). This indicator could be measured by the current ratio or quick ratio. Current ratio is used as a liquidity factor in this research. From the point of view of the trade-off theory, companies with higher liquidity have more ability to meet the debt obligation, which lower the risk of bankruptcy. Therefore, they are likely to borrow more in order to make use of the tax shield. However, the pecking order theory believes that high liquidated firms prefer to use internal financing than debts since they can fulfill the contractual obligations on time, meaning that there is a negative relationship between liquidity and leverage (Basri, et al., 2019) (Jaworski, et al., 2019). Empirical studies by Jaworski, et al. (2019), Salim and Susilowati (2019), Trang and Thanh (2021), Quynh et al. (2020) also pointed out this negative correlation. Thus, the hypothesis is:

**H4:** *Liquidity has a negative correlation with the company's capital structure.*

**Tangibility of assets:** The tangibility of assets is measured by fixed assets/total assets, which reflect the assets structure of an enterprise. Firms could utilize fixed assets as collateral for debt financing. Therefore, the higher the composition of tangible fixed assets, the higher the opportunity to obtain additional debts as it could reduce financial risk. Hence, the trade-off theory predicts the positive relationship between tangibility and leverage (Basri, et al., 2019) (Jaworski, et al., 2019). However, a negative correlation can be found in the pecking order theory. It suggests that companies with a higher share of fixed assets could decline the information asymmetry, hence, it is less likely to issue debt and reduce the cost of equity. However, a majority of empirical studies supported the prediction of the Trade-off theory. Therefore, the hypothesis is:

**H5:** *Tangibility of assets has a positive correlation with the company's capital structure*

**Tax:** Tax element is measured by income tax expenses/ Earnings before interest and tax. The M&M theory suggests that there is a positive relationship between tax and leverage and firms could utilize debt capacity to obtain benefits from tax shield. However, research conducted by Anh and Yen (2014) shows that tax has a significant and negative impact on the leverage. Therefore, the hypothesis is:

**H6:** *Tax has a negative correlation with the company's capital structure.*

### 3.4. Empirical model

$$LEV_{it} = \beta_0 + \beta_1 ROA_{it} + \beta_2 SIZE_{it} + \beta_3 GRO_{it} + \beta_4 LIQ_{it} + \beta_5 TANG_{it} + \beta_6 TAX_{it} + \varepsilon_{it}$$



*In which:*

$LEV_{it}$ :	Capital structure of company i in year t	$LIQ_{it}$ :	Liquidity of company i in year t
$ROA_{it}$ :	Profitability of company i in year t	$TANG_{it}$ :	Tangibility of assets of company i in year t
$SIZE_{it}$ :	Size of company i in year t	$TAX_{it}$ :	Tax of company i in year t
$GRO_{it}$ :	Growth of company i in year t	$\varepsilon_{i,t}$ :	Random error

## 4. RESULTS AND DISCUSSIONS

### 4.1. Descriptive Statistics

**Table 4.1: Descriptive statistics of variables**

Variable	Obs	Mean	Std. Dev.	Min	Max
LEV	145	1.16366	.8583601	.2065449	5.00608
ROA	145	.0824394	.0882223	-.2974155	.338142
SIZE	145	27.85446	1.798719	25.22127	32.46804
GRO	145	.1144427	.261749	-.5311113	1.447142
LIQ	145	1.725196	.8049185	.5816652	1.447142
TANG	145	.2106911	.1376206	.011188	.629861
TAX	145	.1938759	.5960141	-.1228924	7.230713

*Source: Calculation from the Stata 16 software*

Table 4.1 reveal that the average capital structure obtained is 1.1636, meaning that enterprises included in this research tend to maintain a high debt-to-equity ratio. It can be said that most firms in food and beverage industry are likely to depend more on debts than equity to finance their operations. The maximum debt-to-equity ratio obtained is 5.006, meaning that loans are five times higher than equity and this firm depends mostly on debts. This could give rise to financial distress as well as bankruptcy risk owing to high-interest payments. On the other hand, the minimum debt-to-equity ratio is 0.2065, meaning that several firms are likely to issue equity instead of debts.

The average value of profitability is 8.24%, while the most profitable firm has a ROA of 33.81% and the lowest is -29.74%. It indicates that many firms encountered difficulties during this period, which resulted in low profitability and even losses. The average value of firm size is 27.85, in which the highest value is 32.46 and the lowest value being 25.22. Most of firms in the collected data are medium-sized enterprises, however, there are some significant large enterprises such as Masan Group and Vinamilk. The highest company growth value is 144.71% while the lowest value is -53.11%. The average value of company growth is 11.44%. Although there are several companies have grown substantially, most companies have a relatively low or even negative growth rate.

The average current ratio was found to be 1.72, in which the maximum value is 4.88 and the minimum value is 0.58. Overall, firms in the food and beverages industry have a decent current

ratio and are less likely to confront liquidity risk. Finally, the average value of the fixed assets/total assets ratio is 21.06%, meaning that firms in the collected sample have moderate fixed assets. The maximum value is 62.98% and the minimum value is 1.11%.

#### 4.2. Correlation analysis

**Table 4.2: Correlation matrix of variables**

	LEV	ROA	SIZE	GRO	LIQ	TANG	TAX
LEV	1.0000						
ROA	-0.4194	1.0000					
SIZE	-0.0507	0.1718	1.0000				
GRO	0.1867	0.0654	0.1198	1.0000			
LIQ	-0.5734	0.2468	-0.1058	-0.0025	1.0000		
TANG	-0.2006	0.2675	0.1000	-0.1099	-0.2221	1.0000	
TAX	-0.0192	-0.0435	-0.0792	-0.249	-0.0269	-0.0044	1.0000

Source: Calculation from the Stata 16 software

According to table 4.2, at the significant level of 5%, the correlation coefficient ranges from 0.019 to 0.573 among independent variables, meaning that there are relationships between independent variables and dependent variable.

#### 4.3. Regression analysis

- *Pooled Ordinary Least Square (Pooled OLS) model*

The table below shows that profitability, growth, liquidity and tangibility of assets significantly affect the debt-to-equity ratio based on 95% confidence interval. However, firm size was found to be insignificant and tax is highly insignificant. This model has F-statistics of 24.09 with P-value equal to 0.000, which indicates that the Pooled OLS regression model has statistical meaning. In addition, this model has a high adjusted R-squared of 49.94%, which means that independent variables in the research model can explain 49.04% of the debt to equity ratio.

**Table 4.3: Regression result following Pooled OLS model**

Source	SS	df	MS			
Model	54.27877146	6	9.04645244	Number of obs =	145	
Residual	51.8179124	138	.375492119	F(6,138) =	24.09	
Total	106.096627	144	.736782132	Prob > F =	0.0000	
				R-squared =	0.5116	
				Adj R-squared =	0.4904	
				Root MSE =	.61277	
LEV	Coef.	Std. Err.	t	P >	[95% Conf. Interval]	
ROA	-2.035604	.6501263	-3.13	0.002	-3.321101	-.7501071
SIZE	-.0368451	.0294368	-1.25	0.213	-.0950506	.0213603
GRO	.5897956	.1989074	2.97	0.004	.1964953	.9830958
LIQ	-.6245763	.06966	-8.97	0.000	-.7623152	-.4868373
TANG	-1.543063	.4093392	-3.77	0.000	-2.35245	-.7336747
TAX	-.0673723	.0860304	-0.78	0.435	-.2374805	-.1027359
_cons	3.705965	.8404529	4.41	0.000	2.044135	5.367796

Source: Calculation from the Stata 16 software

- *Fixed Effects Model (FEM)*

The regression result following fixed effects model is shown in the above table. Indicators such as profitability, liquidity, firm size and growth are significant to the debt-to-equity ratio based on 95% confidence interval. However, tangibility of assets and tax is insignificant to the debt-to-equity ratio.

**Table 4.4: Regression result following Fixed Effects Model**

Fixed-effects (within) regression				Number of obs	=	145
Group variable: Firm				Number of groups	=	29
R-sq:				Obs per group:		
	within	= 0.4597		min	=	5
	between	= 0.0066		avg	=	5.0
	overall	= 0.0263		max	=	5
Corr(u <sub>i</sub> , X <sub>b</sub> ) = -0.8837				F(6,110)	=	15.60
				Prob > F	=	0.0000
LEV	Coef.	Std. Err.	t	P >	[95% Conf. Interval]	
ROA	-3.669283	.8843238	-4.15	0.000	-5.421805	-1.91676
SIZE	.8259201	.2209682	3.74	0.000	.388013	1.263827
GRO	.6358101	.1852191	3.43	0.001	.2687494	1.002871
LIQ	-.3162755	.1032687	-3.06	0.003	-.5209298	-.1116212
TANG	-.4895934	.6388319	-0.77	0.445	-1.755608	.7764215
TAX	-.0397834	.0725049	-0.55	0.584	-.1834712	.1039043
_cons	-20.95566	6.254879	-3.35	0.001	-33.35136	-8.559961
sigma_u	1.6214582					
Sigma_e	.45409614					
rho	-.92727361	(fraction of variance due to u <sub>i</sub> )				
F test that all u <sub>i</sub> =0: F(28,110) = 5.05				Prob > F = 0.0000		

Source: Calculation from the Stata 16 software

The F-test is applied for the selection between the Pooled OLS model and the fixed effects model (FEM). It tests for the null hypothesis H<sub>0</sub>: all individual intercepts are equal to zero (Fixed effects = 0). If p-value < 5%, the H<sub>0</sub> is rejected and the FEM model is the suitable model. In table 4.4, Prob > F = 0.0000 means that p-value = 0.0000 < 5%. Therefore, the FEM is the chosen model for this study.

- *Random Effects Models (REM)*

Due to the random estimation results presented in table 4.5 below, profitability, growth, liquidity, and the tangibility of assets are proved to have significant effects on the debt-to-equity ratio whereas firm size and tax are significant to the debt-to-equity ratio.

Moreover, profitability, liquidity, tangibility of assets and tax are presented to have negative impact on capital structure while firm size and growth positively affect the debt-to-equity ratio.

**Table 4.5: Regression result following Random Effects Model**

Random-effects GLS regression		Number of obs	=	145
Group variable: Firm		Number of groups	=	29
R-sq:		Obs per group:		
within	= 0.3852	min	=	5
between	= 0.5617	avg	=	5.0
overall	= 0.4916	max	=	5
		Wald chi2(6)	=	102.43
Corr(u_i, X)	= 0 (assumed)	Prob > chi2	=	0.0000

LEV	Coef.	Std. Err.	z	P >	[95% Conf. Interval]	
ROA	-3.217131	.7555897	-4.26	0.000	-4.698059	-1.736202
SIZE	.0025444	.0495099	0.05	0.959	-.0944932	.0995819
GRO	.7582465	.1751825	4.33	0.000	.4148952	1.101598
LIQ	-.5211159	.0829745	-6.28	0.000	-.6837429	-.3584889
TANG	-1.192678	.5031803	-2.37	0.018	-2.178893	-2.064624
TAX	-.0633019	.0735685	-0.86	0.390	-.2074935	.0808898
_cons	2.433817	1.406291	1.73	0.084	-.3224625	5.190097
sigma_u	.40790673					
Sigma_e	.45409614					
rho	.44656958	(fraction of variance due to u_i)				

Source: Calculation from the Stata 16 software

- *Hausman test*

**Table 4.6: Hausman test result**

	-----Coefficients -----			
	(b) fe	(B) re	(b-B) Difference	Sqrt(diag(V_b-V_B)) S.E.
ROA	-3.669283	-3.217131	-.4521519	.4594702
SIZE	.8259201	.0025444	.8233758	.2153502
GRO	.6358101	.7582465	-.1224364	.0601432
LIQ	-.3162755	-.5211159	.2048403	.0614789
TANG	-.4895934	-1.192678	.7030843	.3935934
TAX	-.0397834	-.0633019	.0235184	.

b = consistent under H0 and Ha; obtained from xtreg  
B = inconsistent under Ha, efficient under H0; obtained from xtreg  
Test: H0: difference in coefficients not systematic

Chi2(6)	= (b-B) ' [(V_b-V_B)^(-1)] (b-B)
	= 20.48
Prob>chi2	= 0.0023

(V\_b-V\_B is not positive definite)

According to the Hausman result from table 4.6, Prob>chi2 = 0.0023 which means that p-value is  $0.0023 < \alpha = 5\%$ . Thus, H0 hypothesis is rejected, meaning that FEM is the chosen model. The panel data regression is analyzed by the fixed effects model in this study.

- *Multicollinearity test*

**Table 4.7: Multicollinearity test result**

Variable	VIF	1/VIF
ROA	1.26	0.792659
TANG	1.22	0.821685
LIQ	1.21	0.829407
SIZE	1.08	0.930103
GRO	1.04	0.961981
TAX	1.01	0.991794
Mean VIF	1.13	

Multicollinearity exists when VIF value greater than 10. VIF values range from 1.01 to 1.26 which is lower than 10. Therefore, the regression model does not have multicollinearity.

- *Heteroskedasticity test*

According to the Modified Wald test result from table 4.8, Prob>chi2 = 0.0000 which means that p-value is 0.0000 < 5%. Thus, H0 hypothesis is rejected, meaning that this model has heteroskedasticity. Therefore, the Feasible Generalized Least Squares (FGLS) is used to overcome the heteroskedasticity.

**Table 4.8: Modified Wald test result**

Modified Wald test for groupwise heteroskedasticity in fixed effect regression model	
<b>H0: <math>\sigma(i)^2 = \sigma^2</math> for all i</b>	
chi2(29)	= 6229.96
Prob>chi2	= 0.0000

*Autocorrelation test*

**Table 4.9: Wooldridge test result**

Wooldridge test for autocorrelation in panel data	
H0: no first – order autocorrelation	
F(1,28)	= 2.871
Prob> F	= 0.1013

**Source:** Calculation from the Stata 16 software

According to the Wooldridge test result presented in table 4.9, Prob > F = 0.1013 which means the p-value is 0.1013 > 5%, accept H0. Hence, the autocorrelation does not exist in this model.

- *Feasible Generalized Least Square (FGLS)*

**Table 4.10: Regression result following FGLS**

Cross-sectional time-series FGLS regression						
Coefficients:		<b>generalized least squares</b>				
Panels:		<b>heteroskedasticity</b>				
Correlation:		<b>no autocorrelation</b>				
Estimated covariances	= 29	Number of obs	=	145		
Estimated autocorrelations	= 0	Number of groups	=	29		
Estimated coefficients	=7	Time periods	=	5		
		Wald chi2(6)	=	443.96		
		Prob > chi2	=	0.0000		
LEV	Coef.	Std. Err.	z	P >	[95% Conf. Interval]	
ROA	-2.146818	.363057	-6.79	0.000	-2.766766	-1.526871
SIZE	-.0181427	.0130673	-1.39	0.165	-.0437541	.0074688
GRO	.7401375	.1276569	5.80	0.000	.4899346	.9903403
LIQ	-.5262056	.04012	-13.12	0.000	-.6048394	-.4475718
TANG	-1.240139	.2083922	-5.95	0.000	-1.648581	-.8316983
TAX	-.0410419	.0427747	-0.96	0.337	-.1248787	.042795
_cons	2.856557	.3726907	7.66	0.000	2.126097	3.587018

Source: Calculation from the Stata 16 software

The fixed effects model need to be adjusted for heteroskedasticity, which results in biased standard errors of the estimation. The estimated variances and covariances of the coefficients are biased owing to heteroskedasticity, testing for hypotheses are no longer viable (Pratheepan & Banda, 2016). Therefore, the FGLS was suggested to overcome heteroskedasticity of fixed effects model.

The FGLS estimation has  $\text{Prob} > \chi^2 = 0.0000 < 5\%$ , thus, this model has statistical meaning. The regression results from table 4.10 reveals that profitability, growth, liquidity, and tangibility of assets are significant to the debt-to-equity ratio, in which profitability, liquidity and tangibility of assets negatively affect the capital structure indicator while only growth has a positive relationship with the debt-to-equity ratio. In contrast, firm size and tax are proved to have no statistical meaning, which could indicate that firm size and tax do not affect the capital structure of the collected enterprises in this study.

Therefore, the regression model is rewritten as follows:

$$LEV_{it} = 2.856557 - 2.14681ROA_{it} + 0.740137GRO_{it} - 0.5262056LIQ_{it} - 1.240139TANG_{it} + \varepsilon_{it}$$

#### 4.4. Discussion of findings

The profitability factor has the most powerful correlation with the company's capital structure, with the coefficient of -2.146818. The result proved that firms with high profitability tends to utilize its internal capital rather than debt financing, which is consistent with the pecking order theory. In other words, the preference order of financing sources is retained earnings, debt capital

and equity capital. This significant and negative relationship is in line with previous studies in case of Vietnam such as Thang (2019), Trang and Thanh (2021), Dung and Thanh (2019), Bao (2020), Quynh, et al. (2020), and other studies by Ariyani, et al. (2018), Li and Islam (2018), Jaworski, et al. (2019), Salim and Susilowati (2019), Pratheepan and Banda (2016). The negative correlation is also supported by the hypothesis H1.

The factor of tangibility of assets has significant and negative impact on the company's capital structure, with the coefficient of -1.240139. Therefore, the negative correlation can not be explained by the trade-off theory. According to the trade-off theory, the higher the composition of tangible fixed assets, the higher the opportunity to obtain additional debts since firms utilize fixed assets as collaterals for debt financing. Thus, the creditors will assess the business risk lower, which lead to more affordable cost of debts than without capital. However, in fact, a majority of enterprises in the food and beverage industry mainly use short-term debts for financing operations, meaning that collaterals is unnecessary. This result is in line with previous studies by Jaworski, et al. (2019); Trang and Thanh (2021)' Dung and Thanh (2019); Quynh, et al. (2020). However, it is not supported by hypothesis H5.

Liquidity is found to have significant and negative effect on the company's capital structure, with the coefficient of -0.5262056. The result indicates that firms with higher liquidity prefer using internal capital than borrowing and issuing shares. Hence, this correlation supports the predictions of the pecking order theory as well as the hypothesis H4. Moreover, this results is supported by Jaworski, et al. (2019), Salim and Susilowati (2019), Trang and Thanh (2021), Quynh, et al. (2020).

Firm growth is proved to have a strong and positive relationship with the company's capital structure, with the coefficient of 0.7401375. The result explains that firms with high growth opportunities require significant capital to finance its operations. Hence, as the internal sources can not meet the required capital, there is a need for external financing and firms will prioritize the choice of loans based on the order preference. This correlation is in line with the predictions of the pecking order theory and previous research such as Thang (2019), Jaworski, et al (2019), Pratheepan and Banda (2016), Trang and Thanh (2021), Dung and Thang (2019), Quynh et al. (2020). Moreover, hypothesis H3 also supported for this result.

In contrast, firm size and tax do not have statical meaning, which presents that there is no correlation between these factors and the company's capital structure. This results is not supported by hypothesis H2 and H6. The relationship between firms size and the capital structure is not in line with any previous studies. However, the relationship between tax and the capital structure is supported by Quynh, et al. (2020), Dung and Thanh (2019). It can be said that enterprises in Vietnam have not taken advantages of the tax-shield from interests.

## 5. CONCLUSIONS

This study was conducted to examine the factors affecting the capital structure of 29 listed food and beverages firms in Hanoi Stock Exchange and Ho Chi Minh Stock Exchange. The data used in this study is collected from the audited financial statements for the period 2017-2021. The panel regression models such as Pooled OLS, FEM, REM and FGLS are applied to analyze the

impacts of six explanatory variables including profitability, firm size, growth, liquidity, tangibility of assets and tax on the debt-to-equity ratio.

The research results shows that profitability, growth, liquidity and tangibility of assets are strongly influence the company's capital structure. While profitability, liquidity and tangibility of assets are negatively affect the capital structure, growth has positive relationship with the capital structure. In contrast, firm size and tax do not have statical meaning. In general, there are three accepted hypotheses and three rejected hypotheses. Moreover, the research results also reveal that the implications of the pecking order theory are suitable for the capital structure of food and beverages firms in Vietnam.

However, the sample size and research period of this study is relatively small compared to other studies. Moreover, there are different internal factors affecting the company's capital structure such as firm age, risk, management behavior, foreign ownership that was not analyzed in this study. Since this study only focuses on internal factors, external factors are not included in the research. In addition, the scope of study is limited to the food and beverage firms in Vietnam, thus, other studies could be conducted to study other industries as well.

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# APPLYING EFA MODEL TO ANALYZE THE IMPACT OF ACCESS TO FINANCE ON THE OPERATION OF SMALL AND MEDIUM-SIZED ENTERPRISES IN THE CONTEXT OF COVID-19

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**Abstract:** *Small and medium-sized enterprises contribute a significant part to the country's economy, and access to financial resources by small and medium-sized enterprises is of paramount importance to help enterprises operate production and business. Moreover, in the context of Covid-19, many economies in the world in general and the economy in Vietnam in particular have been seriously affected. This makes it difficult for small and medium-sized enterprises to access domestic and foreign finance as well. This study uses EFA model to analyze the impact of access to financial resources on the operation of small and medium-sized enterprises in the context of Covid-19. Thereby, a number of proposals are made so that small and medium-sized enterprises can access finance in the best way.*

**Keywords:** *Small and medium enterprises, financial resources, Covid-19, financial markets.*

## 1. INTRODUCTION

Small and medium-sized enterprises (SMEs) play an important role in the economy of each country, including high-development countries. In the current trend of integration and globalization, countries all pay attention to promoting SMEs to mobilize maximum financial resources and support for large enterprises, increasing the competitiveness of products. For Vietnam, the position of SMEs is even more important because at present, 95% of operating enterprises registered in Vietnam contribute significantly to the value of GDP for the country and create jobs for more than 5 million workers, which is also the driving force for the development of the national economy.

In the context of the complex situation of Covid – 19 epidemics, enterprises in general and SMEs in particular face a lot of difficulties in production and business. According to the General Statistics Office, in the first 5 months of 2021, the whole country has 31,800 enterprises which have suspended their activities temporarily due to the trading situation and stood on the verge of bankruptcy because of sudden demand reduction, leading to reduced revenue as well as risks of debt recovery. Accordingly, one of the most urgent issues is the lack of financial resources in enterprises.

Access to financial resources is not new but a long-standing problem in enterprises as well as SMEs. Although the main contribution to the GDP growth of the country, the reality shows that SMEs have a range of problems accessing finance, especially medium and long-term capital

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sources. In Vietnam, the shortage of capital in production and business is the biggest barrier to the development of SMEs. Additionally, the instability of the world economic situation and internal difficulties due to Covid 19 complex developments have had a strong impact on the business environment. Accordingly, SMEs find it even more difficult to access bank credit as well as other financial resources to restore damaged production in the context of the unstable economy.

In order to understand and clarify the access of SMEs to financial resources during the Covid 19 epidemic, the authors use the EFA model to analyze the impact of access to financial resources on the activities of SMEs in Vietnam.

## 2. LITERATURE REVIEW

Hajer, Mohamed et al. (2020) demonstrated that access to financial resources significantly affects the business orientation to performance of SMEs. Research has shown that financial autonomy is enhanced through both individual financial resources and the availability of external financial resources, which play a central role in supporting the autonomous aspect of business orientation and improving the performance of SMEs. In particular, many other risks in business orientation are due to lack of capital to take advantage of commercial and market opportunities. However, access to finance can be facilitated through credit institutions or through government funding schemes. Moreover, financial barriers, difficult access to bank capital and regulatory issues have a negative impact on the growth of SMEs.

Research by Ayadi et al. (2010) suggests that the ultimate goal of banks is also a factor affecting SMEs' access to finance and whether profit maximization is the bank's primary goal. Forms of banking such as cooperative banks, credit funds, community development finance institutions and community savings banks often have social goals and aim to support local economic development instead of profit maximization. Moreover, this group of banks is usually small banks and operates at the local/ regional level. Accordingly, these forms of banking will be more effective than large and foreign banks in providing capital for SMEs. On the contrary, large corporations and foreign companies receive greater access to capital from large-scale foreign banks. Therefore, a financial system that has a diverse mix of financial institutions would seem to best meet the different needs of various types of businesses.

Research by Lam Thi To Nga in 2004 indicates that business capital is always placed at the top of SMEs, the exploitation and rational mobilization of capital is always a key task, a top priority in the development strategy of SMEs. The capital mobilization of SMEs exists and develops in various forms, depending on the level of development of the banking and financial system and economic policies of each country, mainly in the form of mobilization such as commercial banks, bank credit, share issuance, bonds, hire-purchase credit and other forms of informal mobilization.

The study of Nguyen Thi Hong Nham in 2019 showed that the business environment system plays an important role in the access to finance of SMEs and the improvement of the quality of the business environment has a positive impact on the ability of SMEs to borrow capital, reduce their dependence on informal finance sources and participate in the financial market, positively impacting on the access of SMEs to official finance. In addition, for financial intermediation activities: When the lending procedures of commercial banks are complex and time-consuming, they will reduce SMEs' access to these funds, the official costs (interest rates) and informal finance (support costs, aid, purchases ...) have an impact on SMEs' access to official finance. The results of business

activities of the enterprise (reflecting the solvency of the enterprise) such as: ROA, income, assets, etc., have an impact on the ability to obtain funding from SMEs and the geographical location of the enterprise does not affect the probability of receiving financing loans from commercial banks.

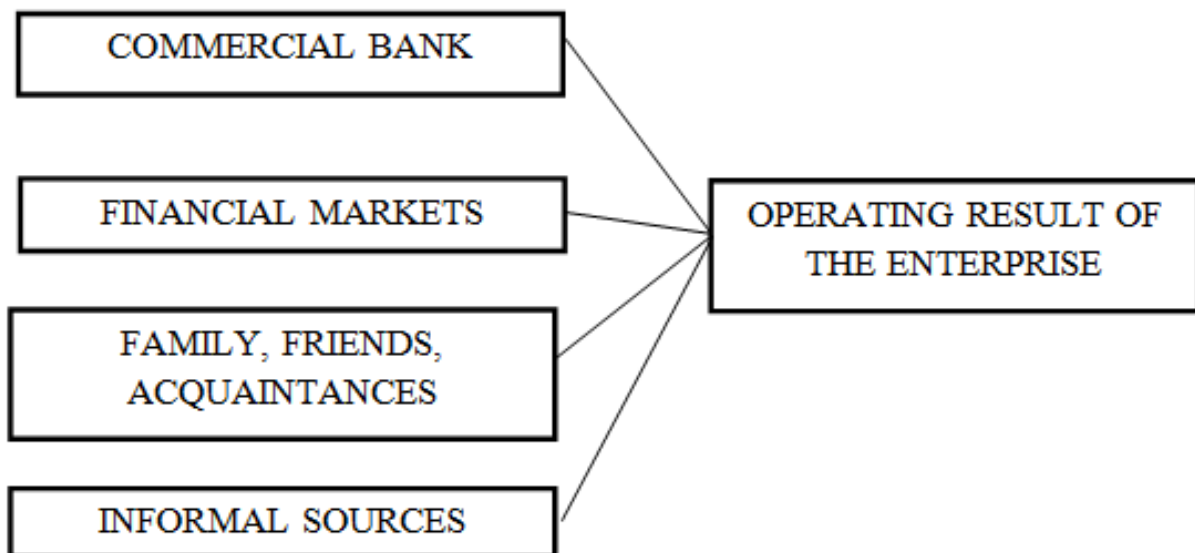
The study by Tran Tho Dat and To Trung Thanh (2018) measured the influence on the development of the financial market with access to credit financing through the fact that companies participated in a sealed position on the stock market. It shows that the participating companies listed on the stock market have a positive impact on the company's access to funding.

## 1. Proposed model and methodology

### a. Proposed model

A model is built to analyze the impact of access to each financial resource on the activities of SMEs in the context of Covid – 19, namely commercial banks, financial markets, family, friends, acquaintances and informal sources. This approach results in outputs that are the performance of enterprises.

The research model proposed by the authors in this study is generalized as follows:



*Source: Author group's suggestions*

**Figure 1: Research model**

### b. Methodology and data

#### *Methodology*

*Qualitative research method:* The research is carried out in order based on the theory and overview of previous related studies to propose the model and preliminary research.

*Quantitative method:* The research sample in the quantitative study was carried out by convenience sampling method with a sample size of 305 SMEs participating in the survey. Data is collected by survey through a pre-designed questionnaire directly sent to businesses to fill out and received results

immediately. Basic analytical techniques (statistics, Cronbach's alpha, EFA) are performed using SPSS software to show how access to financial resources affects the operation of SMEs in Vietnam.

### *Data statistics*

#### *The ability of enterprises to access financial resources*

**Table 1: Average statistics on access to financial resources of enterprises**

Variable Name	Descriptions	Minimum value	maximum value	Mean value	Standard deviation
<b>TC1</b>	Commercial Bank	1	5	1.33	.672
<b>TC2</b>	Investment fund, support fund and state support	1	5	1.77	.596
<b>TC3</b>	Issuance of bonds on the financial market	1	5	1.74	.737
<b>TC4</b>	Family/ Friends/ Acquaintances	1	5	1.74	.680
<b>TC5</b>	Informal sources (hot loans, high interest rates)	1	5	1.92	.767

Source: SPSS 20.0

*Comments:* According to the Likert scale of 5 levels, we have a score of 3 as intermediate. Comparing the average value of the variable, we see that the variables observed are between 1 and 3, which indicates that the majority of enterprises participating in the survey have low access to financial resources.

### *Level of satisfaction with mobilization channels*

**Table 2: Average Statistics of Enterprise Satisfaction with channels of mobilization**

Variable Name	Descriptions	Minimum value	Maximum value	Mean value	Standard deviation
<b>CB</b>	<b>Commercial Bank</b>	<b>1</b>	<b>5</b>	<b>4.36</b>	<b>1.011</b>
<b>CB1</b>	Ability to raise a large amount of capital	1	5	4.18	.874
<b>CB2</b>	Costs related to completion of application procedures at reasonable levels	1	5	4.12	.941
<b>CB3</b>	Legal procedures related to support for access to capital are resolved in a timely manner	1	5	4.17	.925
<b>CB4</b>	Diverse services, easy access for businesses	1	5	3.98	.812
<b>FM</b>	<b>Financial markets</b>	<b>1</b>	<b>5</b>	<b>3.94</b>	<b>.888</b>
<b>FM1</b>	Ability to raise a large amount of capital	1	5	4.05	.871
<b>FM2</b>	Low access costs to capital	1	5	4.02	.877
<b>FM3</b>	Legal procedures related to support for access to capital are resolved in a timely manner	1	5	4.03	.908
<b>FM4</b>	Diverse credit services, according to the needs of the business	1	5	4.03	.897
<b>F</b>	<b>Family, friends, acquaintances</b>	<b>1</b>	<b>5</b>	<b>4.05</b>	<b>.918</b>
<b>F1</b>	Ability to raise a large amount of capital	1	5	4.05	.855

<b>F2</b>	Costs related to completion of application procedures at reasonable levels	1	5	4.08	.905
<b>F3</b>	Legal procedures related to support for access to capital are resolved in a timely manner	1	5	4.00	.901
<b>F4</b>	Diverse services, easy access for businesses	1	5	4.05	.924
<b>IS</b>	<b>Informal sources</b>	<b>1</b>	<b>5</b>	<b>4.05</b>	<b>.907</b>
<b>IS1</b>	Ability to raise a large amount of capital	1	5	4.02	.953
<b>IS2</b>	Expenses related to completion of reasonable procedures and dossiers	1	5	4.01	.860
<b>IS3</b>	Legal procedures related to support for access to capital are resolved in a timely manner	1	5	4.04	.868
<b>IS4</b>	Diverse services, easy access for businesses	1	5	4.05	.936

Source: SPSS 20.0

*Comments:* From the table above, it can be seen that the observed variables are between 3 and 5, which proves that the surveyed enterprises are satisfied with the above mobilization channels.

### *Results of business activities of the enterprise*

**Table 3: Average statistics on business performance of enterprises.**

<b>Variable Name</b>	<b>Descriptions</b>	<b>Minimum value</b>	<b>Maximum value</b>	<b>Mean value</b>	<b>Standard deviation</b>
<b>R1</b>	Revenue of the enterprise meets the plan	1	5	1.61	.893
<b>R2</b>	The profitability of the business is achieved as expected	1	5	1.93	.762
<b>R3</b>	The business's market share was achieved as expected	1	5	1.89	.856
<b>R4</b>	The market development (entering new markets, producing new products) of the enterprise is achieved as planned	1	5	1.87	.833
<b>R5</b>	Efficiency of capital and fixed assets achieved as expected	1	5	1.92	.845

Source: SPSS 20.0

*Comments:* When considering the business performance of enterprises in the context of Covid – 19, the average level of agreement of enterprises is from 1 to 3, which shows that the majority of enterprises do not agree with the view that the variable.

## **4. RESEARCH RESULTS**

The results of testing the reliability of the scale showed that the Cronbach's Alpha coefficient reached the largest value of 0.827 for the factor Financial markets and the smallest for the factor Informal source. All Cronbach's Alpha coefficients of the factors are relatively high.

**Table 4: Cronbach’s Alpha coefficients**

Variables	No. of initial variables	Cronbach’s Alpha coefficients	No of matched variable
Commercial bank	4	0.821	4
Financial markets	4	0.790	4
Family, friends, acquaintances	4	0.827	4
Informal source	3	0.789	3

Source: SPSS 20.0

**Exploring EFA Factors**

- Development of correlation matrices

Overall, we see that the items in this matrix are related to each other.

But to confirm this correlation will use Bartlett’s to test the following hypothesis:

- $H_0$ : Observed variables are not mutually correlated
- $H_1$ : Observed variables are mutually correlated

**Table 5: KMO and Bartlett’s Test for last independent variables**

<b>KMO and Bartlett’s Test</b>		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.950
Bartlett’s Test of Sphericity	Approx. Chi-Square	3219.916
	Df	190
	Sig.	.000

Source: SPSS 20.0

*Comments:* Based on the results of the data analysis we see, Sig. (Bartlett’s Test) = 0.000 (sig. <0.05) thus rejecting the H0 hypothesis, accepting the H1 hypothesis, which means that the observed variables are correlated with each other in the overall, which is an important condition of the factor analysis. In addition, KMO criteria are used to consider the appropriateness of factor analysis, in this study, it was found that EFA analysis is appropriate ( $0.5 < KMO = 0.950 < 1$ ).

- Determine the number of factors

**Table 6: Extraction variance at last factor analysis**

Coefficient	Value
Eigenvalues	1.104
Appropriation variance	63.116

Source: SPSS 20.0

*Comments:* According to the table above, we have 4 factors that affect the perception of the business that the business results will increase if the business has access to more informal sources. With Eigenvalues = 1.104 > 1 representing the variability in each factor, the factor drawn has the best information summary meaning.

The total variance extracted from Rotation Sums of Squared Loadings (Cumulative %) = 63.116% > 50% demonstrates that 63.116% of the variation of the data is explained by the above group of 4 factors.

**Table 7: KMO and Bartlett's Test for last-time dependent variables**

<b>KMO and Bartlett's Test</b>		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.757
Bartlett's Test of Sphericity	Approx. Chi-Square	390.600
	Df	10
	Sig.	.000

Source: SPSS 20.0

*Comments:* Table shows that KMO = 0.757 > 0.5 so factor analysis is appropriate and Sig. (Bartlett's Test) = 0.000 (Sig.  $p < 0.05$ ) demonstrate that the observed variables are correlated with each other in the overall population.

### *Correlation analysis*

**Table 8: Correlation analysis between dependent and independent variables**

Correlations		KQ	NH	TT	GD	PCT
R	Pearson Correlation	1	-.056	-.103	-.042	-.026
	Sig. (2-tailed)		.000	.000	.000	.000
	N	305	305	305	304	304
CB	Pearson Correlation	-.056	1	.256**	.479**	.445**
	Sig. (2-tailed)	.001		.000	.000	.000
	N	305	305	305	304	304
FM	Pearson Correlation	-.103	.256**	1	.380**	.331**
	Sig. (2-tailed)	.002	.000		.000	.000
	N	305	305	305	304	304
F	Pearson Correlation	-.042	.479**	.380**	1	.534**
	Sig. (2-tailed)	.002	.000	.000		.000
	N	304	304	304	304	303
IS	Pearson Correlation	-.026	.445**	.331**	.534**	1
	Sig. (2-tailed)	.001	.000	.000	.000	
	N	304	304	304	303	304

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS 20.0

*Comments:* The above results show that all Pearson correlation Sig values between independent variables and dependent variables are less than 0.05. Thus, the independent variables have a linear correlation with the dependent variables.

### **Regression model**



**Table 9: Coefficient of fit of multiple regression model**

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate	Durbin-Watson
1	.173 <sup>a</sup>	.030	.0568		.881	2.014
a. Predictors: (Constant), NH, TT, GD, PCT						
b. Dependent Variable: KQ						

Source: SPSS 20.0

From the Model Summary table, show R<sup>2</sup> correction (Adjusted R Square) = 0.568 = 56.8%. Thus, the independent variables put into the regression run affect 56.8% of the change of the dependent variable.

The Durbin Watson coefficient used for the first-order chain correlation test showed that the model did not violate the multiple regression method and the Durbin Watson value obtained was 2,014 (range 1.5 to 2.5) and accepted the hypothesis that there was no first-order chain correlation in the model. Thus, the internal regression model under the conditions of evaluation and suitability testing for the drawing of research conclusions.

**Table 10: ANOVA Results and Regression Analysis Suitability**

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.144	4	1.786	2.301	.04 <sup>b</sup>
	Residual	231.331	298	.776		
	Total	238.475	302			
a. Dependent Variable: KQ						
b. Predictors: (Constant), NH, TT, GD, PCT						

Source: SPSS 20.0

*Comments:* From the table above, the Sig. value of ANOVA analysis is 0.04 (<0.05), which allows to reject the hypothesis H<sub>0</sub>, meaning the existence of statistical significance between 4 variables and 1 dependent variable. We can conclude that the regression equation is consistent with both the sample and the study.

**Table 11: Regression coefficients and linear polyaddition statistics**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.247	.306		7.331	.000		
	NH	-.044	.059	-.050	-.738	.002	.668	1.432
	TT	-.104	.063	-.104	-1.662	.001	.712	1.221
	GD	-.111	.071	-.115	-1.569	.001	.823	1.248
	PCT	.100	.069	.102	1.451	.027	.751	1.330

Source: SPSS 20.0

*Comments:*

The first is the Sig value of testing each independent variable, sig in this model is less than 0.05, which means that the variable is significant in the model. The variables met Tolerance acceptance standards  $> 0.0001$ . Variance Inflation Factor of the variables in the model is very small, less than 10, indicating that linear multiplexing of the independent variables is not possible and that the independent variables in the model are acceptable.

The regression results show that all variables have an impact on the dependent variable do sight test of each independent variable is less than 0.05.

The linear regression equation extracted by the Beta coefficient is shown as follows:

Standardized model:

$$KQ = 2.247 \ 0.05 \ NH - 0.104 \ TT - 0.115 \ GD + 0.102PCT + \varepsilon$$

In which:

- + NH: Commercial bank
- + TT: Financial markets
- + GD: Family, friends, acquaintances
- + PCT: Informal source

From the above standardized model, the subject “family, friends, acquaintances” has the greatest impact on the perception of the business that the results of the business in the context of Covid - 19. Next, the second statistically significant impact factor is the “Informal source”. Then, the factors “Financial market” and “Commercial bank”, respectively.

Standardized Coefficients Beta results indicate the importance of each variable independently of the dependent variable. The Beta value in the table above tells us how much influence there is between 4 independent variables and 1 dependent variable. We see that the Beta coefficient shows that the variable “Informal source” has a reversible impact, while the variables “Commercial bank”, “Financial market”, “Family, friends, acquaintances” have a reversible impact on the results of business activities. As follows:

The standard regression value of the variable “Family, friends, acquaintances” affects 11.5% of the operating results of the enterprise (the strongest linear relationship). Most SMEs in the current context tend to access financial resources from “Family, friends, acquaintances”. Therefore, the factor “Family, friends, acquaintances” has the greatest influence on the results of business activities.

The standard regression value of the variable “Financial market” affects 10.4 % of the operating results of the enterprise (the second strong linear relationship). Besides the factor “Family, friends, acquaintances”, the factor “financial market” is one of the factors that SMEs aim to mobilize financial resources. Therefore, the “financial market” factor has a great influence on the operating results of the business.

The standard regression value of the variable “Informal source” affects 10.2% of the operating results of the enterprise (third strong linear relationship). Although not the factor with the greatest impact, this is the only factor with a reversible impact on the operating results of the enterprise. Therefore, the “Informal Source” factor has a significant influence on the performance of the enterprise.

The standard regression value of the variable “Commercial bank” affects 5% of the operating results of the enterprise (the fourth strong linear relationship). This is the least influential factor. As a SME, raising capital from commercial banks will be more or less difficult and risky. Therefore, the “Commercial Bank” factor has an impact on the operating results of the business.

## 5. CONCLUSION AND POLICY IMPLICATIONS

From the results of the model of assessing SMEs’ access to each financial resource, it can be seen that in the context of the Covid – 19 epidemics, SMEs have greater access to informal capital than other mobilization channels such as commercial banks, financial markets or loans from family, friends and acquaintances. This is also a channel to help businesses stay active and achieve important results in this difficult period.

The main reason for this result is that in the context of the Covid – 19 epidemics, one of the barriers to developing a business is lack of capital and difficult to access official capital sources because businesses often do not meet the requirements of collateral, especially for SMEs when factories and machinery are almost still required to rent. Meanwhile, the collateral requirements from official capital sources are still mainly land owned by enterprises or machinery and equipment. In addition, the size of enterprises also impacts on the ability of enterprises to access financial resources, the larger enterprises will have easy access to credit capital while SMEs must mainly use informal financial sources. In addition, the cost of non-formal loans is also somewhat reasonable compared to the remaining mobilization channels.

### **Policy implication**

Based on the research results, the authors suggest some solutions to improve the access to finance of SMEs in the context of Covid – 19.

- ***On the part of the government***

*Firstly*, It is necessary to diversify the channels of access to capital for SMEs. In fact, SMEs have access to capital from many different sources but access to capital from credit institutions is still the main and most important channel for SMEs. Therefore, in order to overcome difficulties, the government needs to strengthen its support for the provision of information, operation and affordability of enterprises, thereby encouraging credit institutions to create a data system on SMEs as well as transparency of necessary criteria on access to credit for enterprises.

*Secondly*, the government must create an equal business environment in economic fields by promptly issuing resolutions on improving the business investment environment and improving national competitiveness, promoting administrative reforms, constantly improving the business environment. In addition, there is a need for legal assistance related to enterprises through providing legal training and consultancy services related to enterprises, state management agencies help enterprises understand correctly and accurately legal issues, gradually consider the compliance with laws, mechanisms, and policies as the self-interest of all enterprises.

- ***On the part of banks and credit institutions***

*Firstly*, banks need to remove some barriers to appraisal, prove the damage caused by COVID-19, prove the collateral and prove the ability to repay... Because they are considered the biggest bottleneck for businesses to access loans. They also need to make institutional reforms in issuing documents and policies related to SMEs of enterprises; dismantling and reducing

administrative procedures, accelerating the process of granting land-attached asset ownership certificates to enterprises; supporting enterprises to increase their ability to improve management mechanisms, business management capacity, financial management in the direction of transparency, clarity, investment in technological innovation, improve competitiveness.

*Secondly*, other recommendations are regularly providing of timely, full and accurate information on loan conditions, time, loan procedures of lending organizations to each enterprise; Support enterprises in the stages of: setting up business projects, mobilizing and using capital effectively; Develop more preferential lending policies for SMEs, for example: lowering interest rates, more convenient mortgage and credit mechanisms...

- ***On the side of enterprises***

*Firstly*, SMEs must innovate the management capacity of business, risk management and financial management in order to focus on the key production and business sectors with strengths, capable of generating stable cash flows to increase the ability to repay bank loans. On the other hand, SMEs must be responsible and conscious in cooperating and coordinating with credit institutions in debt restructuring, debt payment and business plan development in accordance with the capacity of capital, technology and people of their enterprises.

*Secondly*, SMEs need to pay attention to market research and use the financial support of the government and foreign organizations to obtain preferential capital sources. In addition, they should join the network of production and business alliances to leverage the resources of the network of enterprises in the industry.

*Thirdly*, SMEs need to focus on improving business capacity, make annual business plans and strategic development plans. They also should establish a database of business, market and internal audit and control activities to assess the current state of business operations.

*Fourthly*, It is important to improve the accounting work of enterprises, focus on the transparency of financial activities. Accordingly, SMEs need to regularly review the criteria for assessing the financial situation of enterprises, such as: the degree of financial independence of enterprises. Transparent financial operations help financial institutions speed up customer assessment and help make loan decisions faster, in addition to helping businesses identify potential risks early to take effective measures...

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# THE COORDINATION BETWEEN FISCAL AND MONETARY POLICY FOR ECONOMIC RECOVERY IN VIETNAM

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**Abstract:** *To overcome the challenges of the epidemic and adapt to the new context, the role of fiscal and monetary policies and the coordination of these two policies for economic recovery and development is particularly important. The article points out the need to coordinate fiscal and monetary policy in theory. In this article, it also analyzes the problems posed for the coordination between the fiscal and monetary policy. Using the fiscal sustainability model, the article builds a scenario for coordinating fiscal and monetary policies. The findings have some implications for policymaking in Vietnam for the period 2022-2025.*

**Key word:** *fiscal policy, monetary policy, policy coordination, economic growth, economic recovery*

## INTRODUCTION

After temporarily controlling the Covid epidemic at the end of 2020, Vietnam's economy enters the first phase of the 5-year period 2021-2025 with expectations of rapid economic growth. However, from mid-2020 to 2022, the outbreak of the COVID-19 pandemic with its fast-spreading speed, unpredictable development, and unprecedented level of danger in history has had a strong impact on economic growth and social life. The Covid-19 crisis have significantly affected the state budget balance due to a sharp increase in public spending needs. Economic recovery and development in the period 2022-2025 are a big challenge for the Vietnamese government. In this context, the role of fiscal and monetary policy is particularly important.

The first part of the article is the theoretical review for the coordination between fiscal and monetary policy. The second part of the article is devoted to an overview of fiscal policy and monetary policy in Vietnam in recent years. In the third part, we present a simple model and a scenario to estimate the impact of the coordinating fiscal and monetary policy on macro economics in the next period. In the end, this is the conclusion with some policy implications for Vietnam.

## 1. THEORETICAL REVIEW: WHY IT SHOULD BE COORDINATED THE MONETARY AND FISCAL POLICY FOR ECONOMIC RECOVERY ?

Economic theory shows that the impact of monetary policy and monetary policy on macroeconomic variables of the economy is very complex (Green, (2002), Mankiw (2009),

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Mishkin (2019). The coordination between monetary policy and monetary policy is to meet the following requirements:

*Policy coordination to increase policy effectiveness*

Fiscal policy and monetary policy are the most important macro policy, each of which has an effect on one or more specific objectives. Therefore, the combination of the two policies will increase the number of government's policy tools, helping to increase the overall effectiveness of macroeconomic policies.

*Policy coordination to overcome policy lag*

Compared with monetary policy, the flexibility of fiscal policy is less. Fiscal policy decisions require a long time not only in decision making but also in policy implementation (known as internal lag). For example, changing the tax rate, adding or subtracting a tax requires the process of preparation, drafting and approval by the National Assembly; or deciding on infrastructure investment projects also requires a feasibility study, calculation of benefits - costs, etc. Not to mention the fiscal policy is related to the budget capital, so it is still necessary to calculate the capital source and allocate capital between the objectives. Therefore, fiscal policy does not meet the requirement to handle situations quickly.

However, fiscal policy has the ability to affect aggregate demand faster than monetary policy (called external lag), because monetary policy can only indirectly affect aggregate demand through the behavior of businesses and households. Moreover, in countries with less developed financial systems, the relationship between short-term interest rates and long-term interest rates is not really close, and therefore, changes in monetary policy of short-term interest rates can affect whether short-term interest rates or not. much to the investment component of aggregate demand. In the case of a liquidity trap, when interest rates are already very low, even monetary policy has absolutely no effect on regulating output (Leeper, Eric M. (1991).

Compared with monetary policy, monetary policy has more flexibility. The reason is that, according to James Daniel et al. (2006), the interest rate tool of monetary policy is a variable that is easy to adjust up and down. Moreover, monetary policy can be adjusted day by day, acting as a fine tuning tool of macroeconomic policy.

Meanwhile, fiscal policy is limited by budget capacity. In the context of high budget deficit, the implementation of expanded fiscal policy will increase the debt burden for the Government, threatening the sustainability of the macro economy. Emerging and low-income countries are also limited by their domestic borrowing capacity due to underdeveloped financial systems and limited foreign borrowing capacity (James Daniel et al., 2006). Furthermore, fiscal policy can be wasteful if not used effectively. Government investment projects may not have positive economic and social implications while creating a debt burden for the budget. This is what has happened in practice in many countries, even in developed countries like Japan. Moreover, the mobilization of capital to finance the budget deficit may again suck out capital in the economy, creating pressure to push up interest rates, causing a crowding effect that reduces the effectiveness of the policy. Therefore, fiscal policy needs to be combined with monetary policy to overcome limitations in flexibility as well as budget capacity.

*Coordinate policies to ensure the stability of each policy*

Because there is a close relationship between fiscal policy and monetary policy, the instability of one policy can affect the stability of the other and vice versa. The Mexican crisis of 1982 is an illustrative example of how overly loose monetary policy can lead to macroeconomic instability, affect market confidence, and lead to a crisis (Corden et al. , 2002).

In the case of stabilizing expected inflation, in order to control inflation, only monetary policy will not be effective if it does not have coordinated with the fiscal policy to send out a common signal of the Government’s determination to control inflation. Eijffinger & Haan (1996) argue that, if the budget deficit persists, people will increase their expectations of inflation before the level of public debt exceeds the safe limit because they believe that the central bank will also have to increase the money supply sooner or later. to finance the budget deficit. At that time, the damage to economic growth due to tightening measures to control inflation by raising interest rates will be much higher than in the case of low budget deficit.

To determine the possibility of coordination between the two policies, it is necessary to build two matrices, that is, the matrix reflecting the states of the macroeconomic environment and the policy response matrix corresponding to the economic states (see Table 1).

**Table 1: Fiscal and monetary policy coordination matrix**

		Inflation	
		<i>High</i>	<i>Low</i>
<b>Growth</b>	<i>High</i>	<i>Tight monetary and fiscal policy</i>	<i>Tight fiscal policy + ease monetary policy</i>
	<i>Low</i>	<i>Tight monetary policy + ease fiscal policy</i>	<i>Ease monetary + fiscal policy extension</i>

*(Source: author compiled from Mankiw (2009))*

**2. THE FISCAL POLICY AND MONETARY POLICY OF VIETNAM IN THE RECENT YEAR**

**2.1. Overview of Vietnam’s fiscal policy and budget balance**

After many years of fiscal policy extension, the Government has shown efforts to reduce the relative size of the Vietnamese budget, in recent year. Budget revenue which accounted for 30% of GDP has been reduced to about 26-28% in the period 2006 - 2009 and has tended to decrease in the period 2015-2019 to an average of just over 23% of GDP.<sup>1</sup>

*The size of budget revenue compared to GDP decreased*

The data show that although in the last years, the size of Vietnam’s budget revenue/GDP has decreased compared to 2006-2011, it is still higher than that of low-income developing countries (see Table 2). The high scale of budget revenue will affect the savings of the private sector, reducing investment in production and business development. A high tax burden can encourage fraud and tax evasion and thus cause tax loss and distortions in the market due to unfair competition.

<sup>1</sup> Old GDP (unadjusted)

The recent general trend of countries is to reduce the scale of state budget revenue/GDP, especially for oil-exporting countries (the reason for falling oil prices also strongly affects their income). Analysis with countries in the ASEAN region also shows that the scale of Vietnam's budget revenue is still relatively high compared to other countries.

**Table 2: Budget revenue/GDP in low-income developing countries**

	2012	2014	2016	2017	2018	2019	2020	2021
<i>Average low-income countries</i>	17.3	16.1	14.2	14.7	15.1	15	13.7	13.8
Countries that export oil	16.9	12.8	6.1	7.2	9.2	8.7	7.2	8.2
Asian countries	16.2	16.7	16	16.1	16.1	16	14.1	13.7
Latin American countries	20.2	20.1	21.9	21.8	21.1	21.4	19.7	18.9
Countries in the Sahara Desert	16.2	14.5	11.9	12.8	13.3	13.2	12.3	12.8
Other countries	24.7	21.8	17.7	17.7	20.7	21	19.8	19.8
Vietnam*	18	17.7	19.1	19.6	19.5	19.5	16.2	15.9

*Source: IMF data (10/ 2021), 2021 data is estimated, Vietnam use new GDP calculation)*

#### *Revenue structure has changed positively but not sustainably*

After joining WTO, Vietnam has become a large open economy, so Vietnam's economy is strongly affected by the Covid-19 crisis. Many economic and social activities are affected; production and business stagnated, especially in some fields of industry, service, transport, tourism...; millions of workers lost their jobs, and deeply reduced incomes. The sharp decline in budget revenue in 2020-2021 shows the impact of Covid -19 on Vietnam and all countries.

Analysis of the state budget revenue structure by tax type shows that state budget revenue comes from 3 main sources: value added tax (VAT), corporate income tax (CIT) and tax on import and export goods (including imports and exports tax, VAT, and excise tax on imported goods).

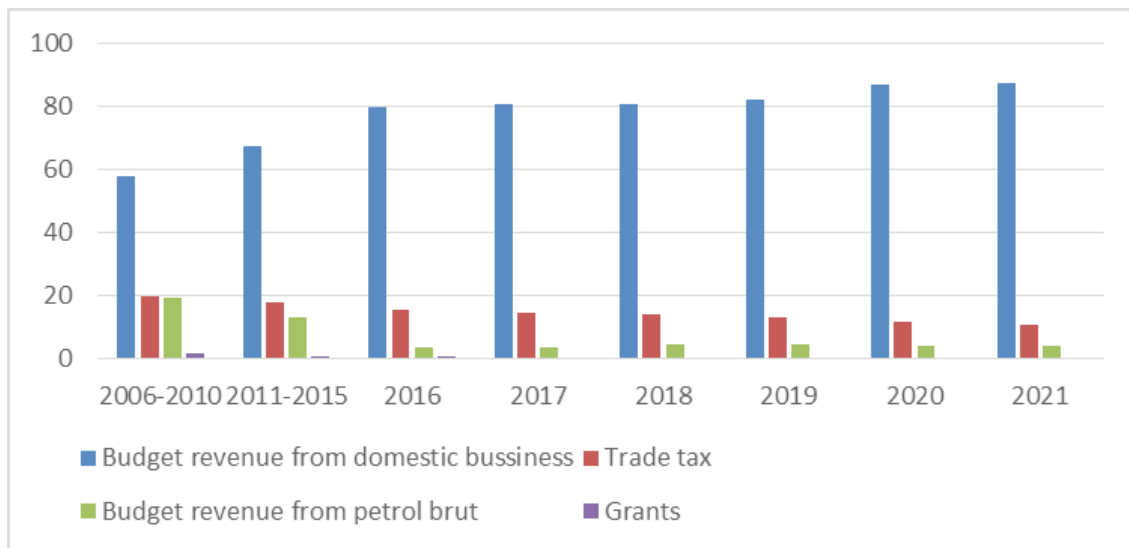
Among the state budget revenues in recent years, a significant decrease in income from corporate income tax in the 2016-2020 period (only 17.5% on average) can be seen, compared with more than a quarter of state budget revenue in the 2006-2010 period. This decline has many reasons such as the reduction of corporate income tax rates, tax evasion, tax avoidance through associated transactions both at home and abroad... Vietnam is having to solve the dilemma which is to reduce tax rates to attract investment and find ways to offset income from CIT to ensure budget stability.

#### *Budget revenue by source*

To consider the sustainability of the budget revenue structure, Vietnam's statistical classification can be used as revenue sources and budget payers. The analysis of state budget revenue according to the classification of Vietnam's revenue also shows many interesting observations.



Unit: %



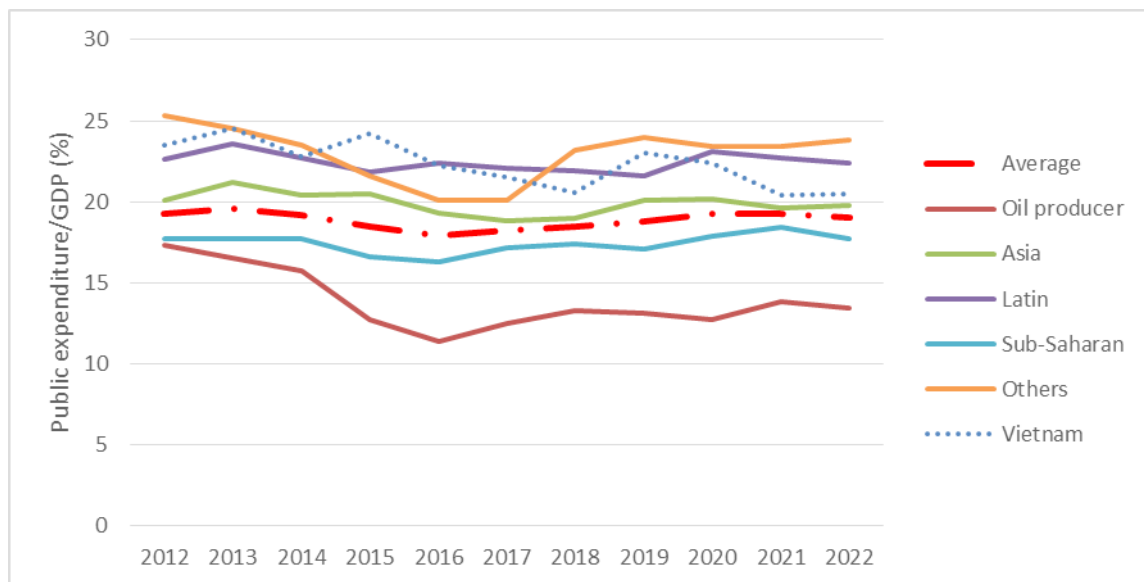
**Figure 1: Structure of state budget revenue by classification of Vietnam (by source)**

(Source: Ministry of Finance, multi-year state budget settlement, 2021 is the second estimate)

It can be seen that the increasing role of domestic revenues while revenue from crude oil and revenue from import and export activities is decreasing. The structure of state budget revenue continues to change, becoming more and more sustainable, the proportion of domestic revenue gradually increases, from about 68% on average in the period 2011-2015 to over 87% in 2020, the proportion of crude oil revenue gradually decreases from an average of about 13% in the period 2011-2015 to about 3.6% in 2019, and the balance income from import and export activities has decreased from 18.2% on average in the period 2011-2015 to 13.9% 2019. The pressure of finding alternative sources of income is huge.

The positive results of policies to strengthen public spending discipline and thrift measures have contributed to a sharp decrease in Vietnam's ratio of public spending to GDP (see Figure 2 below). However, international comparison shows that Vietnam is still spending from the state budget higher than the average of developing countries at the same level.

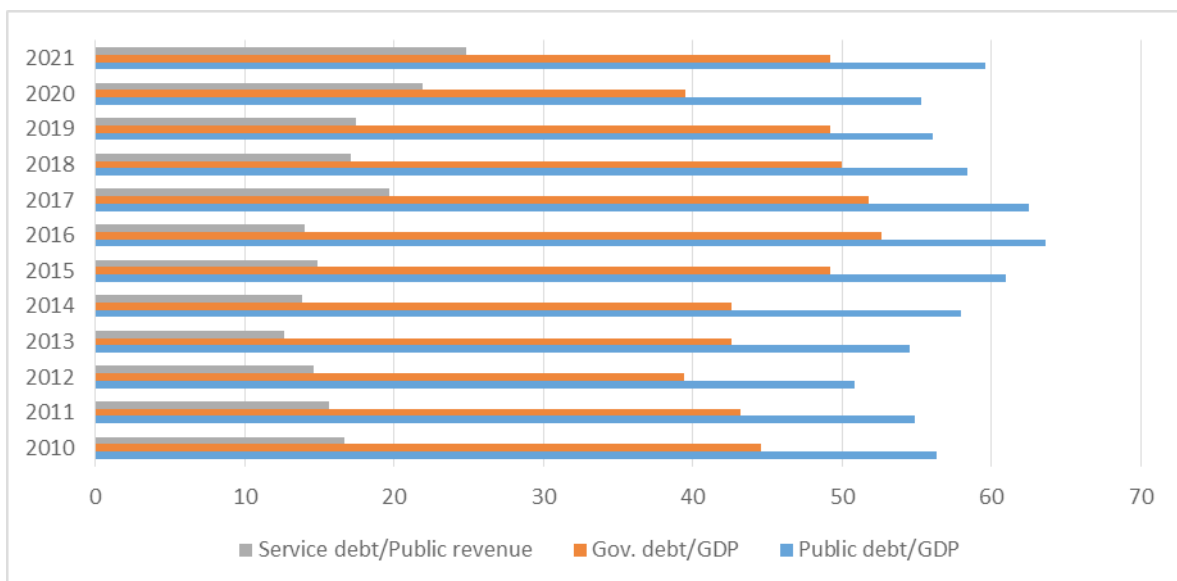
The pressure on expenditure leads to pressure on revenue increase to ensure the stability of the state budget in the recent period. The average growth rate of state budget balance expenditure in the period 2010-2015 is 15.4% and recurrent expenditure is 18%, the average growth rate of balanced state budget revenue is 15%. However, in this period, the regular revenue, despite the relatively high growth rate, about 13% on average, is still lower than the recurrent expenditure. This threatens the sustainability of the state budget in the long run. With a lot of solutions to tighten discipline and save budget for, especially from 2016-2020, the rate of increase in recurrent expenditure has decreased and is lower than that of recurrent revenue.



**Figure 2: State budget expenditure scale compared to developing countries**

Sources: IMF (2021)

The difficulties of the epidemic together with the expansionary fiscal policies to serve the needs of socio-economic development in the past years have made Vietnam's budget balance always in a state of tension. The state budget deficit has been at a high level for many years, reducing fiscal space.



**Figure 3: Public debt situation in the period 2010-2021**

(Source: Government's Public Debt report, calculated by the author based on unadjusted GDP)

It can be seen that the ratio of public debt and government debt in the period 2017-2020 has decreased, but the epidemic has caused public debt to raise again in 2021 (accounting for nearly 60% of unadjusted GDP). If calculated according to new GDP, in 2021, public debt will account for 43.7% of GDP, much lower than the ceiling of less than 60% of GDP allowed by the

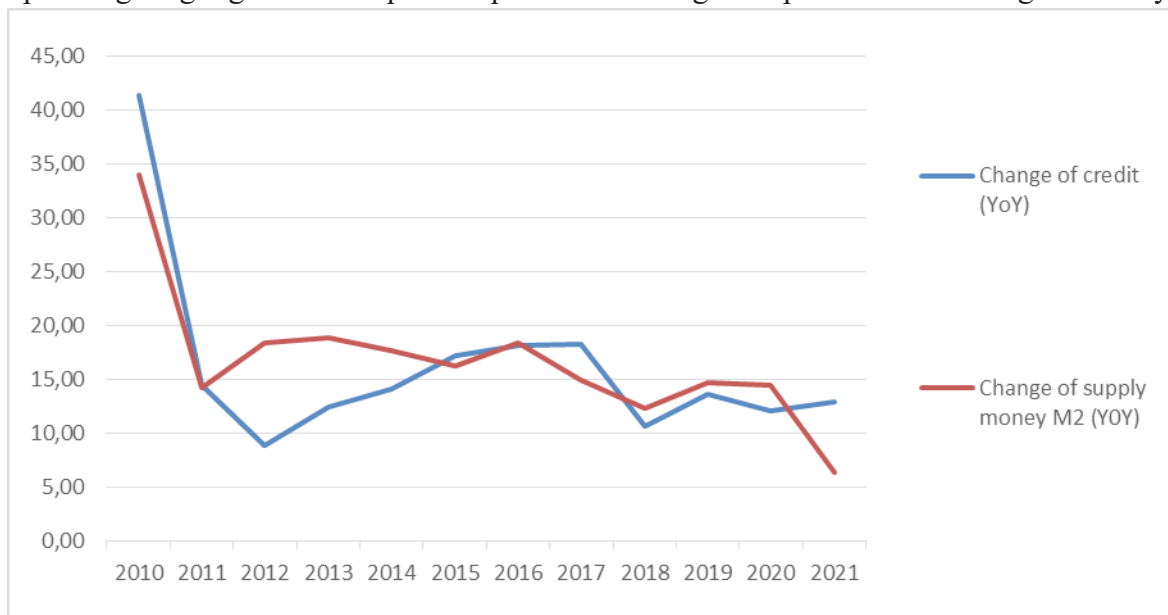
National Assembly. Government debt is about 3.35 million billion VND, equal to 39.5% GDP. The Government's direct debt repayment obligation relative to budget revenue is about 24.8% and the national external debt is close to 8.8% of GDP.

From the analysis of the budget situation in the past period, it can be concluded that Vietnam still has the room for loose the fiscal policy but not too large.

## 2.2. The monetary policy in recent year

In recent years, the SBV has relatively strictly controlled the annual growth rate of total means of payment. The growth rate of money supply from the average period of 2000 - 2010 was about 30%/year, decreased to about 18%/year in 2016 and more than 12% in 2018. That is a significant change in work. money supply regulation has had a positive impact on inflation control over the past time. After the global financial crisis 2007-2009, the world economy experienced complicated and unpredictable developments, which posed many challenges to monetary policy management and the operation of the banking system. Responding to the above difficulties and challenges, from 2015 until now, the State Bank of Vietnam has been flexible in operating monetary policy to adapt to domestic and foreign economic fluctuations of each year.

Period 2015-2017: The State Bank (SBV) controls money supply channels according to the goal of stabilizing the exchange rate and foreign exchange market, controlling inflation, but still ensuring the target of reducing interest rates , rationally increase credit, support credit institutions (CIs) and drastically handle bad debt situation. In 2015, the average interbank exchange rate was adjusted to increase by 3% and the exchange rate band was widened from +1% to +3%; combined with a reasonable adjustment of VND interest rates in the interbank market, ensuring a reasonable difference between VND and USD interest rates, foreign currency trading and market intervention, and promulgating regulations to prevent prevent hoarding and speculation in foreign currency.



**Figure 4: Changes in annual credit balance and supply money**

(Source: calculated from the SBV's data for many years)

In 2017, the State Bank lowered the discount rate and refinancing rate by 0.25 percentage points, bringing the discount rate to 4.25% and the refinancing rate to 6.25%, creating favorable conditions for lowering the discount rate. interest rates, promoting credit growth and economic growth according to the Prime Minister's Directive.

In the 2018-present period: The State Bank will continue to administer the interest rate policy, in line with the macro balances and market developments, stabilize the interest rate level, create conditions to ensure capital sources for business and production. support economic growth. Specifically, in January 2018, the State Bank reduced the offer rate for valuable papers through open market operations from 5%/year to 4.75%/year to contribute to reducing capital costs for credit institutions. Right from the beginning of the year, some commercial banks have reduced lending rates by 0.5%/year for priority areas. The monetary and credit targets increased in line with the target, the currency structure of credit evolved in line with the Government's anti-dollarization policy, gradually shifting from the deposit-borrowing relationship to the buying-buying relationship. foreign currency sales, credit for most priority sectors increased higher than general credit and credit for potentially risky sectors tended to slow down.

In 2021, the State Bank of Vietnam will still operate a stable monetary policy with the main orientation to support the economic recovery in the context of the complicated development of the epidemic, realizing the Government's dual goals of "moderate" fight the epidemic, while ensuring economic development". Accordingly, the State Bank will actively maintain a stable interest rate level in line with the macro balance and inflation, creating conditions to reduce borrowing costs for people, businesses and the economy. The basic interest rate is managed flexibly on the basis of 3 interest rate cuts in 2020 and the interest rate in the past 7 months continues to remain low (the rediscount rate is 2.5% and the refinancing interest rate is 4% ). The State Bank has directed commercial banks to save costs to reduce lending interest rates for businesses. In mid-July, 16 banks simultaneously reduced lending rates at the request of the State Bank to support businesses and people to cope with the Covid-19 pandemic.

In the past 30 years of "Doi Moi", Vietnam's macroeconomic policy orientation has been primarily a growth target. Within the framework of this macroeconomic policy, monetary policy and fiscal policy have worked together to achieve the growth target, whose main pillar is fiscal policy with the continuous increase in the size and ratio of investment to GDP, in which investment Budget investment plays a very important role. During the period of declining budget revenue, monetary policy became a tool to finance the budget deficit. Therefore, in fact, in Vietnam, the way to coordinate the two monetary and fiscal policies is: The fiscal policy is the leader, determining the size of development investment capital, which includes the issuance scale. Government bonds first and monetary policy follower. This "coordinated model" reflects the essence of Vietnam's investment-led growth model and the state-owned economic sector.

The coordination of fiscal policy and monetary policy has been improved in the period 2015-2020, the level of coordination between fiscal policy and monetary policy in this period is quite good (Tran Tho Dat et al., 2020). The analysis results show that, in the period of 2015-2019 when monetary policy tends to be more expansive, fiscal policy tends to be implemented in a cautious direction.

**3. THE COORDINATION BETWEEN FISCAL AND MONETARY POLICY FOR THE PERIOD 2022-2025: MODEL AND SCENARIO**

**3.1. The theoretical model**

In this section, we use Dinh Truong Hinh’s model (1995) to build a model to analyze the impact of fiscal and monetary policy on fiscal sustainability. Fiscal sustainability can be derived from the instantaneous view of the budget constraint:

$$D + i\dot{B} + E\dot{B}^*(1 - \mu) = \dot{B} + E\dot{B}^*(1 - \mu) + \dot{M} \tag{1}$$

Where D is the primary fiscal deficit, i is the nominal interest rate paid on domestic debt, B is the public-sector’s domestic debt, and E is the nominal exchange rate (domestic currency per unit of foreign exchange). A star next to a variable indicates the external sector and a dot above a variable indicates its rate of change. Thus, B\* is the public-sector’s foreign debt,  $\dot{B}$  is the change in domestic debt,  $i^*$  is the nominal interest rate paid on foreign debt. M is the monetary base, and  $\mu$  is the grant or “soft money” component of the budget. For many low-income countries, grants are an important component of the budget. Divide (1) by P and arrange to express in real terms, defining  $b = B/P$  and  $b^* = EB^*/P$ : and note that:

$$(\dot{B}/P) = \dot{b} + b\pi$$

And  $(E\dot{B}^*/P) = \dot{b}^* - b^*(\hat{e} - \pi^*)$  with  $\pi$  is inflation rate.

Equation (1) can be expressed as:

$$d + ib + i^*(1 - \mu)b^* = \dot{b} + b\pi + (1 - \mu)(\dot{b}^* - b^*(\hat{e} - \pi^*)) + m(\pi + g) \text{ or}$$

$$d + ib - b\pi + (i^* - \pi^* + \hat{e})(1 - \mu)b^* = \dot{b} + (1 - \mu)\dot{b}^* + m(\pi + g)$$

Where g is the growth rate of output. Rewrite:

$$d + rb + (1 - \mu)b^*(r^* + \hat{e}) = \dot{b} + (1 - \mu)\dot{b}^* + m(\pi + g) \text{ where } r = i - \pi$$

Divide the above by y

$$d/y + rb/y + (b^*/y)(1 - \mu)(r^* + \hat{e}) = \frac{\dot{b}}{y} + (1 - \mu)\frac{\dot{b}^*}{y} + \delta(m/y)(\pi + g) \tag{2}$$

Define  $\beta = \frac{b}{y}$ ;  $\dot{\beta} = \frac{\dot{b}}{y}$  With x is export volume

Hence  $\dot{b}/y = \dot{\beta} + \beta g$ ; and  $\dot{b}^*/x = \dot{\beta}^* + \beta^* \hat{x}$

Or in terms of y,

$$\frac{\dot{b}^*}{y} = \frac{x}{y}(\dot{\beta}^* + \beta^* \hat{x}) \tag{3}$$

Hence

$$\frac{d}{y} + \frac{rb}{y} + \frac{(1 - \mu)b^*(r^* + \hat{e})}{y} = \frac{\dot{b}}{y} + (1 - \mu)\frac{\dot{b}^*}{y} + \frac{m}{y}(\pi + g)$$

Or

$$\frac{d}{y} + r\beta + (1 - \mu)\left(\frac{x}{y}\right)\beta^*(r^* + \hat{e}) = \dot{\beta} + \beta g + (1 - \mu)\dot{\beta}^* + \beta^* \hat{x} + \frac{m}{y}(\pi + g)$$

Also from the quantity theory of money:

$$Mv = Py \quad (4)$$

In the short term, assuming a fixed velocity of money demand  $v$ ,  $m/y=1/v$ , hence

$$\frac{d}{y} = \dot{\beta} + (1 - \mu)\frac{x}{y}\dot{\beta}^* + \beta(g - r) + (1 - \mu)\left(\frac{x}{y}\right)\beta^*(\hat{x} - r^* - \hat{e}) + 1/v(\pi + g) \quad (5)$$

Equation 5 shows a snapshot of the government budget constraint. This constraint depends on several factors, including the existing stock of domestic and foreign debt  $\beta$  and  $\beta^*$ ; real interest and growth rates ( $r$  and  $g$ ); the proportion of exports in national output  $\frac{x}{y}$ ; export growth rate  $\hat{x}$ ; real international interest rate  $r^*$ ; real exchange rate change  $\hat{e}$ ; the inverse of the velocity of money demand  $\frac{m}{y}$ , and inflation rate  $\pi$ .

We now define the condition for public sector sustainability as one with

$$\frac{d}{y} = \beta(r - g) + (1 - \mu)\left(\frac{x}{y}\right)\beta^*(\hat{x} - r^* - \hat{e}) + 1/v(\pi + g) \quad (6)$$

The condition states that there are three possible sources of financing the primary fiscal deficit in a sustainable way: domestic borrowing if output growth is greater than the interest rate on domestic debt; by external borrowing when export growth is higher than international interest rates, plus currency depreciation; and by money financing when it is consistent with seignorage. Because it relates to a one-period budget constraint, it also shows the liquidity constraint of the public sector.

### 3.2. The scenario results

The above theoretical model is used to build a scenario of the coordination between the fiscal and monetary policy in the period 2022-2025. The data is calculated from the sources of the Ministry of Finance, the State Bank of Vietnam, the IMF and estimated by author.

To estimate the need for state budget expenditure to support growth, we use simple data from the spending multiplier. Based on the calculation of Tran Tho Dat (2013) showing that the spending multiplier for Vietnam is 3.2, this result is similar to the calculation for China by Wang and Wen (2013) of 2.8. In this study we use a coefficient of 3 for Vietnam. To achieve 6.5% growth for 2022, Vietnam needs to spend about 243 trillion VND more than in 2021. Compared with the 2022 state budget estimate of the Ministry of Finance, it is necessary to increase the overspending by 1.8% of GDP for this year. In 2022 (compared to the estimate of 4%), the new overspending will be 5.8%. In 2023, the fiscal support package can be reduced and the overspending is expected to be 4.2 % (compared to 3.7% as in the Mid-Term Budget) and from 2024 the overspending will be reduced to 3 %.

**Table 3: Simulated scenario of Vietnam's deficit, growth and public debt**

		Year			Scenario		
Assumptions and results		2021	2022	2023	2024	2025	2026
GDP growth (%)	$g$	2.5	6.5	6.5	6.5	6.5	6.5
Nominal domestic interest rate (%)	$i$	4.0	4.2	4.4	4.6	4.6	4.6
Inflation (%) (GDP deflator)	$\pi$	2.0	4.0	4.0	4.0	4.0	4.0
Nominal interest rate on external borrowing (%)	$i^f$	1.9	2.1	2.3	2.5	2.7	2.9
Local currency devaluation (%)	$\varepsilon$	0.0	0.0	0.0	0.0	0.0	0.0
Ratio of external debt (% of total)	$b_f$	32.0	32.0	32.0	32.0	32.0	32.0
Real effective domestic interest rate (%)	$r$	2.0	0.2	0.4	0.6	0.6	0.6
Foreign effective real interest rate (%)	$r^f$	-0.1	-1.8	-1.6	-1.4	-1.3	-1.1
Average loan interest rate (%)	$r^w$	1.3	-0.5	-0.3	-0.1	0.0	0.1
Budget deficit (% of GDP)	$d$	-4.0	-5.8	-4.5	-3.0	-3.0	-3.0
Public debt (% of GDP)	$b_t$	43.5	46.5	48	48	48.1	48.2

(Source: calculations by Vu Sy Cuong and Dang Ngoc Tu, values of  $r$ ,  $r^f$ ,  $r^w$ , public debt are calculated figures on the basis of assumptions about growth, overspending, inflation, and nominal interest rates.)

This scenario shows that Vietnam only needs to maintain the fiscal support package by about 2.4-2.8% of GDP for 2022 and reduce it to 1.4% of GDP for 2023 (according to the new GDP). From 2024, at the end of the support package, the overspending level will return to an average of 3% of GDP. With this scenario, public debt will only fluctuate around 48% of GDP, direct debt repayment obligation in the period 2022-2025 will increase insignificantly when the government will mobilize loans through long-term government bonds.

#### 4. CONCLUSION AND POLICY IMPLICATIONS

Due to the impact of Covid 19, Vietnam's macroeconomic situation is now at risk of falling into a state of low growth and low inflation. Therefore, the principle of coordination between monetary policy and monetary policy is to relax together. In other words, the support package should include both of these policies.

In the context that the economy was heavily affected by Covid 19, both aggregate supply and aggregate demand were reduced, it is necessary to have a support package for economic recovery and development. However, it is necessary to understand clearly that the main cause of this economic downturn is due to epidemic prevention measures that have stalled production, disrupted supply chains, and affected production expectations in a number of industries. Therefore, the implementation of the fiscal and monetary policy support package needs to focus on the following issues

Firstly, the size of the support package from the state budget should be consistent with the ability to mobilize and use resources.

Secondly, in terms of state budget expenditure, the fiscal support package should focus on the areas of spending on health, infrastructure investment (inter-regional projects, with basic

procedures completed), spending on labor retraining (career change), spending on construction of social housing quarters, old apartment renovation projects...

According to our estimates, in order to cope with the Covid epidemic, in the medium term, Vietnam will need to spend an additional 0.8-1 percent of GDP per year on health (for vaccines, preventive medicine, construction of regional centers for disease prevention, spending on medical examination and treatment, etc.). This is also a big challenge when balancing the budget with other expenditures. However, special attention should be paid to the effectiveness of health spending, especially in the context of the epidemic with the current state of large testing requirements.

Regarding tax policy, the consideration of continuing tax exemption, postponement and reduction policies, especially allowing long-term loss transfer for a number of industries that are greatly affected, will support the cost of attracting labor. In order to encourage enterprises in some fields to continue to invest money and restore production in 2022-2023, it is possible to consider a policy that allows losses to be carried forward or a policy to compensate costs (enterprises spend then the state will support the increase by reducing the payable CIT).

Third, continue to improve budget execution, especially public investment spending.

Despite the government's strong solutions, the disbursement is always challenging, especially with investment spending. The data show that the difference between the estimate and settlement budget is always high (this rate decreased slightly in the period 2012-2014 and increased again in recent years). When the brought forward expenditures is too large up to nearly 40% of total state budget balance expenditure (2019), the effectiveness of fiscal policy on economic growth in the year will be greatly affected.

Therefore, it is necessary to continue to take proactive, drastic and positive measures in saving expenditures from the state budget, and coordinate with ministries, sectors and localities in making and implementing investment expenditure estimates. The improvement of the legal framework for the management and allocation of public investment expenditure needs to continue to be made to be more suitable to the conditions of policy implementation in Vietnam. It is always necessary to clearly define responsibility, accountability and decentralization of key investment expenditure management. These are also lessons from the disbursement of investment capital in 2020.

Fourth, the issue of budget mobilization

In order to mobilize resources, it is possible to consider accelerating the divestment of state capital in enterprises where the state does not need to hold the controlling power (especially in the context that the stock market is having many advantages as in the past period).

If not mobilizing external sources, Vietnam may consider continuing to issue domestic bonds to borrow domestically. It can be seen that bond interest rates are quite favorable for debt lending. Or they can coordinate with the State Bank in issuing government bonds.

Fifth, coordination between fiscal and monetary policy.

Although there is an international inflation risk in 2022, due to very weak domestic aggregate demand with a sharp drop in the total retail value of goods in the third quarter, the Consumer Price Index in 2021 increased by 1.84%. compared to the same period last year, the lowest increase since 2016. In this context, the monetary policy expansion still has a certain room.



Therefore, to support economic recovery and growth, the State Bank may consider a number of solutions such as adjusting the operating interest rates (refinancing interest rates), allowing certain competition in terms of providing credit in a group of good banks (in order to lower lending rates). The State Bank may also consider temporarily adjusting regulations on safety margin limits and ratios in banking operations to support mobilization and lending.

The implementation of loan interest support for a number of industries and sectors heavily affected by the epidemic should also be considered. However, the dangers of adverse selection and moral hazard should be avoided as much as possible.

In summary, implementing fiscal and monetary policy management in the context of the pandemic is still complicated and the economy has not really had breakthroughs in terms of growth model. In the period of 2022-2025, it is necessary to continue to implement the principle of fiscal policy management, which is to be proactive and flexible in improvisation in the short term but adhere to the principles of budget balance and financial discipline in the long term. Consider adjusting the higher overspending ratio for 2022 and take advantage of low interest rates to borrow and restructure public debt. Accepting high overspending and taking on more debt in the short term is to have better fiscal space for the tasks of both fighting the epidemic and recovering the economy and society.

The Covid-19 epidemic is an unusual phenomenon, so it is also necessary to have specific solutions to cope with the philosophy that Ho Chi Minh once wrote: “invariable, immutable”.

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# EXPERIENCE IN OPERATING FISCAL POLICIES TO PROMOTE THE ECONOMIC GROWTH OF SOME COUNTRIES IN THE WORLD AND LESSONS FOR VIETNAM

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**Abstract:** *Success in economic development is knowing how to choose and decide on macroeconomic and regulatory policies. The economic policy has contributed significantly to realizing socio-economic development goals and is considered a good “fulcrum” for the economic market. The article explores the administration of fiscal policy to promote the economic growth of some countries in the world, thereby drawing lessons for Vietnam.*

**Keywords:** *economic growth, fiscal policy, Vietnam*

## 1. INTRODUCTION

The importance of fiscal policy for economic growth is increasingly being affirmed. Fiscal policy has positively contributed to realizing socio-economic goals and is constantly being researched, developed, and applied in each specific period.

In recent years, along with the strong development of the world economy, the trend of opening up and international integration has brought many development opportunities to countries. It also posed many difficulties and challenges requiring macroeconomic policies, including fiscal policy, which must be researched, understood, learned, and applied most scientifically to promptly adjust the economy when there are fluctuations, ensuring the target economic growth.

## 2. RESEARCH EXPERIENCE IN FISCAL POLICY

### 2.1. Chile's experience

From 1998-1999, affected by the Asian currency crisis, Chile's economy was severely affected after a development period with an average growth rate of 6.82%/year. Exports decreased sharply due to tight monetary policy to control the budget deficit. Fiscal policy has stabilized with a target of 1% policy cycle adjustment. The recovery of the Chilean economy has been evident since 2004, with a growth rate of 6% per year. After the global economic crisis broke out in 2008, support packages worth 1.15 billion USD were launched for middle-income people and small and medium-sized companies. Stimulus packages worth \$4 billion (equivalent to 2.8% of GDP) continue to be launched to boost public spending on transport, housing, schools, and infrastructure. Subsidies and reduction tax packages were also made at \$1.5 billion. In addition to the stimulus packages, measures to refinance state-owned companies and an insurance fund for small and

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medium-sized enterprises worth \$1.5 billion were also implemented. In September 2009, support programs focusing on some areas such as science, R&D and innovation, education, and infrastructure continued to be launched, along with establishing a macroeconomic stabilization fund.

Thanks to supportive policies, Chile is one of the countries that have succeeded in quickly stabilizing the economy after the 2008 crisis. Chile has gained momentum, from negative growth of 1.08% in 2009 to a growth of 5.75% in 2010. In 2010, the unemployment rate decreased from 10.8% to 8.15% in 2009. The investment rate increased from 20.3% to 22.3%. Budget revenue increased from 20.7% in 2008 to 23.1% in 2009. January 2010 marked the country's progress from developing countries to developed countries when Chile was approved to become a member of the Organization for Economic Co-operation and Development (OECD).

## **2.2. China's experience:**

From 1991 to now, China has regulated the macro-economy from administrative measures to economic measures and legal regulations. Fiscal policy and monetary policy are increasingly increasing their role and effect.

+ Period 1998-2003: The economic crisis in Southeast Asia in 1997 caused China's exports to decrease, the total domestic demand was not high, and there was a surplus of goods. China shifted its operating policy from focusing on controlling inflation to solving the problem of deflation. Accordingly, regulating fiscal policy aims to stimulate economic growth with measures to increase the issuance of government bonds, expand the scale of basic infrastructure construction, increase the scale of public procurement and public investment, and raise base salaries.

China has successfully solved the problem of deflation after consecutive years of implementing fiscal policy and loosening monetary policy, contributing to maintaining the GDP growth rate during this period at 8%/year.

+ Period 2004 – 2008, in the context of high economic growth, robust credit growth, and high CPI causing increasing inflationary pressure, the Chinese government shifted the direction of the macroeconomic adjustment model to the model of "stable fiscal policy and stable monetary policy." Accordingly, the fiscal policy was amended to increase state budget revenue, optimize state budget spending, and reduce the state budget deficit/GDP ratio from 2.5% in 2004 to 2% in 2005. They were regulating monetary policy to increase base interest rates and control credit size and growth rate. As a result, prices have stabilized, and inflation expectations have fallen.

+ From 2008-2010, the world economic crisis caused China's export market to shrink, the pressure on export-producing industries increased, investment diminished, and the economic growth rate began to decline. China has implemented a conservative fiscal policy and loose monetary policy in such a context. Accordingly, the focus of the fiscal policy was shifted to quality and economic efficiency, increasing state budget spending to improve people's lives, creating jobs, and developing agriculture-rural. At the same time, monetary policy was loosened by removing limits and rationally expanding the scale of credit lending.

China became one of the earliest countries to recover from the economic crisis thanks to prudent fiscal policy and loose monetary policy during this period. The result is to restrain the decline in GDP

in 2009, keep it at 8.5% and stimulate growth in 2010 at 10.3%. China's economy achieved impressive growth in 2009 thanks to the policy of stimulating domestic demand, in which investment in infrastructure projects played a crucial role in promoting growth. GDP growth rate increased by 2%, the consumption growth rate increased by 0.7%, and the industry growth rate increased by 5.3% after more than a year of stimulus implementation. China managed to contain the short-term growth slowdown, stabilize the economy, and boost development investment and domestic production, while many countries suffered the consequences immediately after the crisis, making it an attractive destination for investors; thus, FDI increased strongly in 2010 and 2011. However, the constantly increasing CPI, real estate bubble, and stock bubble appearing due to large scale and continually increasing capital flow into the market are the limitations of this period (from the middle of 2008 to 2010, the Chinese government's investment in the market was estimated at 4 trillion yuan).

Period 2011-2013: Since 2011, China's "positive" fiscal policy continues to be maintained; however, to reasonably support economic growth, implement a "stable" monetary policy while still focusing on controlling credit risk control, preventing the return of inflationary pressure. As a result, China's GDP growth rate has decreased compared to previous years, but it is still higher than the growth rate of other countries in the region. However, this period has limitations as investment capital for the implementation of works and projects is mainly mobilized capital, leading to an increase in local debt and a high debt ratio of enterprises, thereby increasing the risk of the money market.

+ Period 2014-present: Some priority sectors and fields are continually prioritized by China, along with gradually accepting an increasing budget deficit rate.

*First*, exemption and reduction of CIT and VAT to support small-scale enterprises: from January 1, 2014, to the end of 2016, China increased the CIT threshold for small-sized firms from 60,000 yuan to 100,000 yuan. The small and individual business has incomes from 20,000 to 30,000 yuan; they are exempt from sales tax and VAT from October 2014 to the end of December 31, 2017 (compared to the previous expected time of application by the end of 2015)

*Second*, China focuses on incentives for the fields of high technology and environmental protection technology. New energy vehicles are exempt from tax on car purchases from September 2014 to December 2017. Businesses can quickly depreciate equipment and fixed assets used for research and development.

*Third*, convert to VAT from sales tax for service sectors. Since 2009, the process of VAT reform has been carried out through the transition from a production-based VAT to a consumption-based VAT. From 2012 to now; the VAT area has been expanded to include postal services, the transport industry, telecommunications, and 07 other service industries (including logistics services, consulting and appraisal services, cultural and creative services, television services, rental services of tangible mobile assets, and information technology services).

*Fourth*, some personal consumption goods are reduced by about 50% of import tax rates in China from June 1, 2015, to promote domestic spending.

*Fifth*, encourage equity and redistribution of income through personal income tax reform: Intending to narrow the income gap, in 2015, China started to reform personal income tax. It intro-

duced the multiplier consisting of 7 levels, the lowest is 3%, and the highest is 45%. Immediately after November 7, 2016, China's new Finance Minister took office, speeding up the personal income tax reform process.

*Sixth*, the rate of contribution to social security of enterprises is reduced (May 2016). Accordingly, the contribution rate of employers to the Pension Fund will be reduced to 19-20% depending on specific conditions; the Unemployment insurance contribution rate will also be cut from 2-3% of salary (in 2015) to 1-1.5%, of which employees must contribute 0.5%. Provinces, cities, and autonomous regions must adjust to the situation according to the new policy.

*Seventh*, China has implemented a policy of exemption, reduction, and extension of state budget revenues, to remove difficulties, support people and businesses, provide medical support, and prevent and control epidemics, such as tax exemption VAT for taxpayers who are small-scale enterprises from March 1, 2020, to May 31, 2020; apply VAT exemption to businesses and individuals in the following cases: Enterprises produce protective equipment to help prevent and control epidemics; taxpayers provide or transport protective equipment for disease prevention and control; taxpayers provide public transport services, living services and essential living materials for people, express delivery services. In addition, exemption from VAT, consumption tax on goods donated in response to the epidemic, exemption from city construction and maintenance tax, education surcharge, and local education surcharge; types of income from temporary subsidies and bonuses received by health workers in epidemic prevention and control activities are exempt from PIT; such as drugs, supplies, medical, protective equipment and other benefits, excluding cash provided by employers to employees to prevent Covid-19.

Social security is focused on increasing spending in China (More than half of the districts across the country have piloted the reform of district public hospitals (started in March 2014). Promote the development of vocational training now modernize in the direction of perfecting the capital investment mechanism, classifying and implementing the standards for opening training schools, rural areas and disadvantaged areas have enhanced the level of vocational training. In the first 07 months of the year 2015, an increase of 16% in education expenditure, an increase of 19.2% in health care and planned childbirth, and an increase of 21.4% in expenditure on social insurance and employment, etc...); at the same time, encouraging innovation and development of science and technology.

In addition, China has promoted investment in renovating poor residential areas to support growth. It stepped up the construction of a traffic system to serve the Yangtze river economic belt, and the railway industry was strengthened to attract capital, establish a railway development fund, attract investment resources from the population, etc. In 2015, in order to meet the demand for public services, China focused on using volume surplus budget capital to increase spending on public investment and deploy the public-private partnership model.

China has also increased defense spending. In 2012, the defense budget increased by 11.2% to 670.2 billion yuan (US\$106.4 billion); by 2016, this level was US\$138.4 billion (according to the official announcement of the Chinese government).

### **2.3. Korea's experience:**

In the context of the global financial crisis that has had serious consequences in many countries, South Korea is one of the very few countries that has managed to avoid a recession. This is thanks to the good competitive advantages of Korean corporations and exporters, along with the government's effective macroeconomic policy coordination and anti-recession measures.

Korea has flexibly implemented expansionary fiscal policy combined with monetary easing in 2009-2010 to cope with the possibility of a decline in aggregate demand. Korea implements expanded fiscal policy through the "Public Fund and Budget Operational Plan for 2009", which combines increased fiscal spending and tax reduction, creating conditions for the Korean economy to overcome difficulties caused by the global financial crisis. Guarantees for small and medium-sized enterprises to increase spending and significantly increase support to stabilize financial markets, such as stabilizing SME spending as well as stabilizing financial markets will be adjusted to increase from 0.4 trillion won (according to the 2008 budget) to 2.4 trillion won (according to the government's 2009 Draft Plan) and to 3.9 trillion won (under 2009 of the government is approved). They are simultaneously implementing large-scale tax cuts with a reduction of up to 13.5 trillion Won (equivalent to nearly 11.5 billion USD) in 2009.

In addition to the adjustments in the fiscal policy, Korea also made coordinated adjustments in monetary policy in the direction of loosening to ensure financial stability and support growth after the global financial crisis while still ensuring the level of target inflation. In supporting businesses, when coordinating with the fiscal policy, the monetary policy of the Central Bank of Korea has used the entire credit ceiling to direct loans to small and medium-sized enterprises and, at the same time, cut the policy interest rate at a reasonable low level to support growth. In 2013, the monetary policy was operated in the direction of loosening and still aiming for an inflation target of about 2%, and the Korean fiscal policy was also eased in the context of many risks related to world economic growth, public debt in advanced economies and the competition of exchange rates.

Korea has 05 additional budget rounds with a total value of 82 trillion won and allows to raise the value-added tax exemption threshold for small businesses from 30 million won/year in revenue to 48 million won/year in 2020. to overcome the economic consequences of the Covid-19 pandemic. Korea implemented an additional budget package of 11.7 trillion won (0.6% of GDP) to support disease control and prevention, provide masks for people, help small businesses, and small and medium-sized enterprises, provide employment support, and local support.

### **2.4. Japan's experience:**

"Medium and long-term fiscal policy - economic and fiscal overview for the next 10 years" was adopted by the Government of Japan after the financial and economic crisis of January 2009 to continue the goal of recovering and strengthening the position of the Japanese economy. In particular, the priority policy is to focus on economic recovery within 03 years through the implementation of stimulus packages worth 75 trillion yen for tax reductions, housing subsidies, money subsidies and expenditures for the unemployed, support for jobs, and support for small and medium enterprises.

The crisis affected Japan's economy and became more severe after the earthquake and tsunami in March 2011. Therefore, in order to support the economic reconstruction activities of this country after the earthquake and tsunami, the monetary policy continued to be loosened despite the expansion of the fiscal policy. Accordingly, while continuing to provide liquidity to the market with continuous money injections after the double disaster, the Bank of Japan (BOJ) continued to keep interest rates unchanged at record lows.

In the medium and long term, the two goals of supporting growth and fiscal discipline are also balanced by the Japanese government to ensure economic recovery in the short term—besides, fiscal tightening at the right time to maintain fiscal discipline and achieve a basic budget surplus.

In the context of the Covid-19 pandemic, 03 economic stimulus packages were launched by the Government of Japan with a total value of nearly 3 trillion USD in the fiscal year 2020 (ending in March 2021); registration tax exemption for special loan contracts between state-owned or private financial institutions and businesses affected by the Covid-19 epidemic. At the same time, it is allowed to extend the time for submitting tax returns and tax payments related to the 2019 tax year of PIT taxpayers.

Regarding spending policy, Japan has spent 6 trillion yen in cash support for households and small and medium enterprises; 26 trillion yen for measures to reduce corporate tax and social security contributions; 13.9 trillion yen for epidemic prevention medical supplies.

## **2.5. Singapore's experience**

During the Asian currency crisis in 1997, Singapore used mainly fiscal measures. It depended mainly on fiscal policy, such as reducing taxes and fees collected by the government for businesses, spending on development projects, and funds for skills training and local business development. Intending to reduce business costs by 15% (Eskesen, 2009b), the country's total value of fiscal interventions is about 10.5 billion USD (as of November 1998). Thanks to its interventions, Singapore recovered from the crisis and achieved a growth rate of 6.1% in 1999.

During the 2008 financial and economic crisis, businesses and households received relief through centralized fiscal tools, including tax incentives, tax credits, payment transfers, and various discounts on housing and related facilities. The fiscal policy still played the main stabilizing role during the 2008-2009 recession in Singapore.

In the years 2018-2019, Singapore's fiscal policy focused mainly on promoting long-term economic growth. The Government of Singapore has adopted the following principles to meet the objective: (1) As the engine of growth, the private sector is provided by the government with a stable and favorable environment for development. (2) Demonstrate that the tax and spending policy is based on microeconomics and focuses on encouraging saving and investing in businesses.

Singapore has achieved a steady budget surplus over the years, contributing to a high savings rate that allows it to achieve one of the highest investment rates in the world without incurring external debt by adopting CSTK is so cautious. Singapore achieves high levels of foreign exchange reserves through high domestic savings, which boosts investor confidence and resists adverse economic shocks.



In response to the Covid-19 pandemic, 06 bailout packages in 2020 amounted to about SGD 92 billion, and the Government of Singapore launched SGD 11 billion in the 2021 budget year to stimulate demand and recover the economy.

State budget expenditure measures implemented by Singapore: support for families, including cash payments to Singaporeans and additional support for lower-income earners and the unemployed; support to pay for electricity and water bills; support for businesses and employees; assistance with housing costs, job creation assistance for workers, and other economic recovery measures such as support for a national stockpile of medical supplies and a food resilience program.

### **3. CONCLUSION AND POLICY IMPLICATIONS FOR VIETNAM:**

*First*, the coordination of fiscal policy and monetary policy is a top priority issue. From the experience of other countries, the first principle of the coordination of fiscal policy and monetary policy is towards a common goal, ensuring flexibility and effective macro regulation from time to time.

In the case of China, the cooperation between fiscal policy and monetary policy is implemented to ensure that the fiscal policy and monetary policy operate flexibly over periods and effectively regulate the macroeconomy. In the case of Korea, the coordination of fiscal policy and monetary policy is implemented according to the principle of “limiting the functions of policies, towards a general basic goal”, limiting conflicts of interest between policies; and ensuring the flexibility in operating the fiscal policy and monetary policy in accordance with the socio-economic context at each stage.

As an important tool for economic development, fiscal policy needs to be optimized and combined with monetary policy. Thus, setting the general goal is a condition that must be a priority in order to support the successful implementation of distribution mechanisms between fiscal policy and monetary policy.

The experience of Korea in the years 1960-1970 shows that aiming at the common goal when distributing all monetary policy, fiscal policy, and exchange rate policy is to promote exports and economic growth, stabilize the macro-economy, has helped to achieve very high efficiency in export growth. Korea’s success through coordinated policy during this period was to achieve its goal of promoting growth and exports, but without putting pressure on the economy. In other words, thanks to the very strict direction of the state on the financial allocation policy, the state itself does not need to have another intervention, from which the effectiveness of the remaining policy is promoted, cooperating to improve production rhythmically.

In contrast, lessons learned from China in 2008-2010 show that China became one of the earliest to recover after studying the economy with prudent fiscal policy and loose monetary policy. However, the policy cooperation in this period is limited as the number of CPI continuously increases, the real estate bubble and the stock market bubble appear because of the large-scale and continuously increasing capital flow into the market.

*Second*, policy cooperation requires the exchange of information between ministries and branches involved in policy development, especially the coordination between the Ministry of Finance and the Central Bank. At the same time, the quality of macroeconomic-financial fore-

casting is of particular importance for the formulation of objectives and plans for the cooperation of financial-monetary policies. It is necessary to increase the forecast and analysis of economic-financial world problems that may arise. In the context that world politics, economy, finance, and society continue to be complicated and unpredictable, the strengthening of capacity to analyze and forecast world economic and financial issues will ensure that Vietnam is more proactive in responding to fluctuations, minimizing adverse impacts as well as proactively handling global economic issues.

*Third*, mobilize all domestic and international resources for development investment. Vietnam needs to continue to perfect the system of tax, fee, and fee policies in line with socio-economic development orientations and the context of international economic integration. Vietnam should create a favorable business and production environment to promote product development, increase the competitiveness of domestically produced goods and services, encourage exports, encourage investment attraction, and contribute to increasing state budget revenue. At the same time, diversify capital mobilization channels for investment in socio-economic development by promoting the development of the financial market in-depth based on diversifying financial institutions, products, and services on the market. Improve the efficiency of mobilizing external financial resources: Review and use capital mobilization channels, including foreign indirect investment and remittances; diversify financial investment tools to effectively mobilize domestic and foreign resources to serve the country's socio-economic development requirements.

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# DETERMINANTS OF FIRM PERFORMANCE: EVIDENCE FROM VIETNAMESE COMPANIES LISTED ON HO CHI MINH STOCK EXCHANGE (HOSE)

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**Abstract:** *The purpose of this research is to examine the impact of factors to the firm performance of 217 firms listed on the Ho Chi Minh Stock Exchange (HOSE) for a period of 12 years (from 2010-2021). FEM model is used to investigate the determinants of firm performance. Based on the findings presented in this research, empirical support for the proposed model of performance factors of listed firms has been found. The findings of this paper show that the firm performance of Vietnamese firms listed on HOSE is affected by independent variables: capital structure (CS), firm size (S), growth rate (G), financial management capacity (FMC), age (A) and GDP growth (GDP). This findings may be useful for financial managers of firms listed on Ho Chi Minh Stock exchange.*

**Keywords:** Determinants, Performance, Vietnam listed companies, HOSE

## 1. INTRODUCTION

Vietnam has assimilated into global economic development. The market has grown more competitive as a result of the entrance of FDI enterprises entering Vietnam, and businesses must operate effectively in order to survive and flourish. As global competition heats up, firms are becoming increasingly concerned about performance. The better a company performs, the more likely it is to expand and develop its production, create jobs, improve employee living circumstances, and satisfy its financial obligations to the government.

Performance of a business reflects the ability of the enterprise to use the available resources to achieve the highest results in the business. In nature, performance is the expression of combining according to a definite correlation both quantitatively and qualitatively of the elements constituting the business process: labor, labor materials and labor objects. The objective of the research process on factors affecting business performance is to choose and make appropriate business plans. However, the study of factors affecting business performance needs to be carried out continuously throughout the business operation of the enterprise in the market. Many distinct influencing elements influence company business activity. Factors influencing corporate performance may be classified into two categories: “Group of factors influencing outside the business and group of influencing factors inside the business.”

The pandemic led to the collapse of many companies in the world and it also impacts on the Vietnamese firms. Whiles large firms find it easier to survive in a long term downturn, as they are

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enjoy relatively high bargain power financing ability, the small and medium sized Vietnamese firms are vulnerable in all those respects. These firms are more likely to favor a profitability-oriented management strategy. A profit-driven strategy can help generate free cash flow and lower the profitability of bankruptcy.

Thus, the study aims to examine the determinants of firm performance of Vietnamese firms listed on the Ho Chi Minh Stock Exchange in the context of economic fluctuation (2010-2021). This findings may provide some insights to management in steering the corporate performance strategies of firms.

The rest of this paper is organized as follows: Section 2 reviews the prior literatures and develop the hypothesis. Section 3 presents the data and methodology, while Section 4 shows the empirical findings and discussion. Finally, conclusions are presented in Section 5.

## **2. LITERATURE REVIEW AND HYPOTHESIS**

### **2.1. Previous studies**

30 non-financial companies listed on the Nigerian stock market were examined between 2001 and 2007 by Onalapo and Kajola (2010). To conduct their study, the authors use a regression model called OLS using quantitative methods. Debt-to-equity ratio, asset size (percentage of fixed assets), fixed-asset growth rate (percentage of total assets), asset turnover, age of the company, and business lines all have varied degrees of influence on firm performance (return on total assets-ROA and return on equity-ROE). An increase in asset turnover is good for company, but a higher debt to equity ratio and a higher share of fixed assets are bad. Tobacco, printing, and publishing industries, as well as alcoholic beverages, food and beverage processing, chemicals, and computer and office equipment manufacturing, all play an important role in determining a company's overall performance. Much research-based recommendations are put out by the writers to help firms operate better.

Based on 400 companies registered on the Tehran Stock Exchange between 2006 and 2010, Pouraghajan and Malekian (2012) examined the impact of capital structure on firm performance. They use a combination of qualitative and quantitative methods to determine ROA and ROE, which are indicators of company performance. There are many independent variables to consider, including the debt-to-assets ratio, asset turnover, business size (assets), tangible asset fraction, and the age of the company. Debt ratio and corporate performance have a significant negative correlation, according to the research. It is statistically significant and positively linked to the firm's asset turnover, company size, tangible asset structure, and growth rate (ROA and ROE). When it comes to success, there is no statistical correlation between a company's age and how long it has existed. In contrast, firms in the materials and chemical industries have a positive and committed relationship with firm age and enterprise performance, while non-metallic mineral manufacturing firms, food and beverage, base metals, automotive, and parts manufacturing firms have a negative relationship with firm age.

Bashir et al. (2013) looked at the elements that affect the performance of Pakistani food processing companies. The study examined data from 411 businesses between 2005 and 2010. The

ROI was employed as a dependent variable, with leverage, growth rate, company size, business risk, tax, liquidity, and non-debt tax shield as independent factors. Long-term leverage, company size, fixed asset weight, and non-debt tax shield all have a substantial impact on the financial performance of Pakistani food enterprises, according to the findings.

Nguyen (2013) investigated the factors that affect how well food processing companies in Vietnam that are on the stock market do financially. From 2010 to 2012, the audited financial statements of 45 food-making companies that were listed on the Vietnam stock exchange were used to gather survey data. ROA is the dependent variable, and the independent factors are business size, growth rate, days of accounts receivable, fixed asset investment, capital structure, business risk, and operational time. According to the results, a company's financial performance is affected by five factors: its growth rate, the number of days it takes to get money from customers, how much it invests in fixed assets, its capital structure, and its business risk. The growth rate has a positive effect on how well a business does, but the accounts receivable days, the proportion of fixed assets, the debt ratio, and the standard deviation of cash flow all have negative effects. Also, the size of the company has little to do with how well it does financially.

Doan & Dinh (2014) evaluated the capital structure and profitability of enterprises listed on the Vietnamese stock market. For the year 2011-2013, a sample of 235 enterprises listed on the Ho Chi Minh City Stock Exchange (HOSE) was analyzed using a regression model for panel data (POOL) and the Fixed Effects Model (FEM) (FEM). The model's dependent variables are Return on Equity (ROE) and Earnings per Share (EPS) (EPS). Long-term debt-to-equity ratio, debt-to-equity ratio, depreciation on total assets, market value of shares on book value (P/E), annual total assets, and percentage of state ownership in total capital are all independent variables. The data reveal that the long-term debt-to-equity ratio and the debt-to-equity ratio have a negative effect on profitability, while the capital structure has a beneficial impact. Total asset depreciation and business size have little influence on ROE and EPS. Furthermore, growth has no meaningful bearing on profitability.

A number of researchers investigate how to measure firm's financial performance. There have been various measures of financial performance, such as return on sale reveals how much a firm earns in relation to its sales; return on assets determines a firm's ability to make use of its assets and return on equity reveals what return shareholders take for their investment. The advantages of financial measures are the easiness of calculation and that definitions are agreed worldwide (Panagiotis and Konstantinos (2016).

## **2.2. Determinants**

### **2.2.1. Internal factors**

#### **Company Size**

Zeitun and Tian (2007) utilize a panel data sample of 167 Jordanian firms from 1989 to 2003 to explore the influence of capital structure on corporate performance. Firm size has a beneficial and large effect on firm performance ROA, according to the data. The role of business size is one of the results, indicating that large organizations achieve larger returns than smaller ones, probably due to investment diversification and economies of scale.

### **Company's Growth**

The growth rate is the most widely used alternative metric of profitability. The growth rate considered in this research is based on sales and revenue growth. As growth enterprises may earn profit through investment, Zeitun and Tian (2007) predicted that firms with strong growth prospects will have a high-performance ratio. As a result, growth prospects are likely to have a favorable impact on a company's success. Growth possibilities, according to Onaolapo et al. (2010), have a positive effect on the percentage change in the log of total assets. However, according to Bashir et al. (2013), growth in the industry is not substantial at any level, and there is a negative association between growth and company performance.

### **Company's Capital Structure**

Capital structure is another aspect that was investigated for this research. The debt-asset ratio is one interpretation of the term "capital structure ratio." According to the findings of Zeitun and Tian (2007), the capital structure of a company had a considerable negative influence on the firm's performance measurements. This was true for both the accounting measures and the market measures. Additionally, Van Hau NGUYEN (2021) shown that the capital structure element has a detrimental impact (-) on ROA and ROE. In addition, Pouraghajan and Malekian (2012) investigate the influence of capital structure on company performance and find that there is a strong negative association between debt ratio and firm performance. Specifically, they find that a higher debt ratio is correlated with a lower level of firm performance.

### **Infrastructure, Equipment and Technology (IET)**

IET has a negative influence on both ROA and ROE variables, according to Onaolapo and Kajola (2010) and Siminica et al. (2011). Nevertheless, according to Bashir et al. (2013), the relationship between IET and ROA, ROE is positive. The greater the fixed asset ratio, the higher the depreciation and inventory costs. This might have an impact on the company's performance.

### **Financial Management Capacity (FMC)**

FMC had a beneficial influence on both ROA and ROE, according to Vu and Nguyen (2007), Marian et al. (2012), and Nguyen (2013). A high accounts Average Collection Period indicates that a firm pays its suppliers promptly, whereas a low ratio indicates that a company pays its bills slowly. If a firm's ratio is decreasing, it may indicate that the company is having difficulty paying its debts. A low ratio may dissuade suppliers from issuing lines of credit when they do a financial review of a firm. Average Collection Period ratio influences other business KPIs and reveals how healthy it is.

### **Company's Age**

A company's age has also been postulated to be positively linked with the performance metrics ROA and ROS. Coad et al (2018) demonstrate that age is crucial for both survival and development. Bianchini et al. (2017) propose a study of the influence of corporate governance on business innovation throughout the firm age distribution. Researchers discover that the anticipated negative impact is greater for younger enterprises than for older firms. The findings show that young organizations prioritize short-termism and value protection above long-term risky innovation methods. Based on these findings, it is believed that a company's age is strongly linked to ROA and ROS.

### **2.2.2. External factors**

#### **Pandemic (Covid-19)**

The Covid-19 pandemic had a tremendous influence on a variety of aspects of social and economic life in every nation throughout the globe. Since the first case was found in December 2019 in Wuhan, China, the coronavirus has spread to 228 countries and territories, resulting in over 527 million reported illnesses and around 6.3 million deaths (WHO, 2022). Agus Purwanto (2020) conduct research to determine the extent to which the COVID-19 epidemic has had both a good and bad impact on the economic performance of Indonesia. The findings showed that almost all industries have been negatively affected because of decreased raw material imports. This has resulted in fewer sales for some businesses, the departure of some workers and the adoption of a more flexible work schedule for others, which has led to a reduction in production capacity. Additionally, the number of orders that have been placed has fallen, and the turnover rate for sales has significantly decreased. However, some markets are showing signs of improvement due to high demand in certain industries, such as medical equipment such as Personal Protective Equipment (PPE), masks, medical gloves, pharmaceuticals, and phytochemical, and of course the food and beverage business. These industries are driving the demand for products in those markets.

#### **GDP growth**

The total value of all goods and services produced in a nation during a certain period is known as the gross domestic product (GDP). To keep inflation in check and industry moving slowly, the government will raise interest rates if the economy is thriving. Countries' economic health may be gauged by their GDP. A corporation might utilize this to predict whether their industry would grow or shrink. Layoffs and other cost-cutting measures may be used if firms opt to save money in the event of a recession. A company's decision to grow may be influenced by the state of the economy. According to Ali Matar and Mahmoud Al-Rdaydeh (2018) found that GDP has a positive impact on both ROA and ROE, two indices of business success. As a result, a GDP in a good and stable position is beneficial to achieving exceptional company performance.

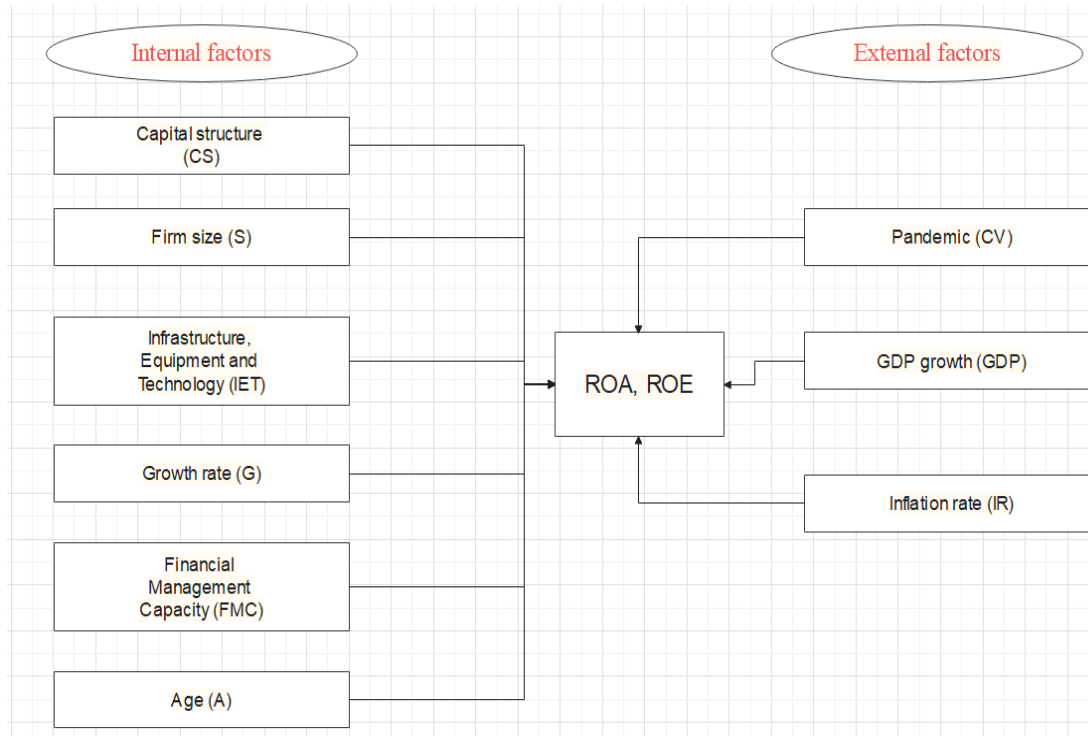
#### **Inflation rate**

Inflation erodes buying power by causing a consistent and widespread rise in the cost of goods and services over time. A low but positive inflation rate is beneficial to the economy, whereas excessive inflation feeds on itself and degrades the economy's long-term performance. During periods of high or growing inflation, real estate, energy commodities, and value equities have typically outperformed. Bonds and pricey growth stocks, on the other hand, tend to lag as inflation reduces the current value of future cash flows to investors. Inflation was found to be adversely connected with company performance by Ali Matar and Mahmoud Al-Rdaydeh (2018) and (Alabdullah et al., 2014).

### **2.4. Developing hypothesis**

This study uses firm level data on listed firms. This setting provides an excellent opportunity for investigating the impact that a number of firm characteristics factors have on firm performance. The factors that affect firm performance have been widely recognized. Based on previous researches

and empirical studies, this study seeks to extend these studies using data about Vietnamese firms listed on the stock exchange. The proposed research model and hypotheses have been developed as follows:



**Figure 1: Proposed research model**

**Table 1: Variable definition and proposed relation to dependent variables**

Dependent Variables: Firm Performance				
Determinants	Observed Variable	Measurement		
ROA	Return on Assets (ROA)	Profit after tax/Total assets		
ROE	Return on Equity (ROE)	Profit after tax/Total equity		
Summary of Independent Variables				
Determinants	Observed Variable	Code	Measurement	Relation
Capital structure (CS)	Debts over total assets	CS	Total debt/Total Asset	+/-
Firm size (S)	Ln (Sale)	S1	Sale in a year	+
	Ln (Total assets)	S2	Total assets in a year	+
Infrastructure, Equipment and Technology (IET)	Fixed assets ratio	IET	Fixed assets/ Total assets	+/-
Growth rate (G)	Net revenue growth	G1	(Sales last period – Sales next period)/Sales last period	+
	Total asset growth	G2	(Assets at the end of the period - assets at the beginning of the period)/assets at the beginning of the period	+



Financial Management Capacity (FMC)	Average Collection Period	FMC	365/ Account Receivable Turnover Ratio	-
Age (A)	Age of the company	A	Age of the company increase through the period	+
<b>Summary of External Variables</b>				
Determinants	Observed Variable	Code	Measurement	
Pandemic (CV)	Dummy variable	CV	Value 0 or 1	-
GDP growth (GDP)	GDP growth	GDP	[(final GDP – initial GDP)/initial GDP] x 100	+
Inflation rate (IR)	Inflation rate	IR	[(Curent CPI – initial CPI)/ Current CPI] x 100	-

### Main hypothesis

- H0: There is a significant effect of internal factor on companies' performance.

### Substantive hypothesis

- H1: There is a negative effect of firm size on performance
- H2: There is a positive effect of Company's Growth on performance
- H3: There is a negative effect of capital structure on performance
- H4: There is a negative effect of IET on performance
- H5: There is a positive effect of FMC on performance
- H6: There is a positive effect of age on performance
- H7: There is a negative effect of pandemic on performance
- H8: There is a positive effect of GDP growth on performance
- H9: There is a negative effect of inflation rate on performance

### Model Construction

Based on the identified independent and external variables, the following equation is created:

$$ROA_{it} = \beta_0 + \beta_1 CS_{it} + \beta_2 \log(S)_{it} + \beta_3 IET_{it} + \beta_4 GR_{it} + \beta_5 FMC_{it} + \beta_6 A_{it} + \beta_7 CV_{it} + \beta_8 GDP_{it} + \beta_9 IR_{it} + u_{it} (*)$$

$$ROE_{it} = \alpha_0 + \alpha_1 CS_{it} + \alpha_2 \log(S)_{it} + \alpha_3 IET_{it} + \alpha_4 GR_{it} + \alpha_5 FMC_{it} + \alpha_6 A_{it} + \alpha_7 CV_{it} + \alpha_8 GDP_{it} + \alpha_9 IR_{it} + u_{it} (**)$$

## 3. DATA AND METHODOLOGY

### 3.1. Data collection

For our study, we will focus on the determinants of firm performance in Vietnam context. We collected data from Vietnamese companies listed on the Ho Chi Minh Stock Exchange (HoSE) for the period 2010 to 2021. Furthermore, only companies which were active during the examined period were considered. In addition, companies in our dataset are required to have reported a full annual account. The final sample consist 217 firms with 2604 observations.

### 3.2. Data analysis

We used a package of STATA software version 15 to estimate the regression equations that we proposed above. First off, bivariate relations among variables were explored via examining correlation. Next, we used ordinary least square (OLS) to examine the effect of factors on firm performance. Then, Hausman's test was employed to discover which models are more suitable for the data set between Fixed Effects Model (FEM) and Random Effects Model (REM). The result suggests that FEM is suitable for the character of data in this research. The research also examined some necessary test for regressive assumption to ensure the result of regression is blue such as autocorrelation, multicollinearity and heteroskedasticity.

Finally, to validate our research results, GLS was performed to recalculate standard errors in case the models violate regressive assumptions.

## 4. RESULTS AND DISCUSSION.

### 4.1. Descriptive statistic

**Table 2: Descriptive Statistic**

#### Dependent Variable

Variable	N	Mean	Sd	Min	Max	CV	Skewness	Kurtosis
ROA	2604	0.066118	0.082795	-0.62458	0.742625	1.25222	1.331063	15.19491
ROE	2604	0.13084	0.163881	-1.68719	2.93092	1.252528	1.532033	49.18195

#### Independent Variable

Variable	N	Mean	Sd	Min	Max	CV	Skewness	Kurtosis
DA	2604	0.797326	1.696149	-0.86729	68.63232	2.127296	26.62147	1007.386
Sale	2604	4332.311	7492.609	-308.741	103176.4	1.729471	4.772205	37.21542
Asset	2604	10316.46	51649.14	-427028	1185645	5.006479	17.15991	355.5522
IET	2604	0.373429	0.258256	-0.03729	1.294471	0.691579	0.154246	1.918424
G1	2604	0.228345	2.561318	-24.1617	102.1511	11.2169	28.15922	1033.241
G2	2604	0.014126	7.295948	-249.602	176.2144	516.4765	-17.728	869.7328
FMC	2604	133.4993	1577.191	-20975.2	69271.68	11.81423	33.04874	1456.011
AGE	2604	26.26037	13.22162	0	51	0.503482	0.048075	1.648114
CV	2604	0.166667	0.37275	0	1	2.236497	1.788854	4.2
GDP	2604	0.057167	0.014374	0.0258	0.0708	0.25144	-1.278	3.280579
IR	2604	0.055067	0.047213	0.0063	0.1867	0.857383	1.702171	5.248712

Tables 2 demonstrate that the dependent variable has two observed variables, while the independent variables have eleven observed variables, and each observation variable has 217 observations. All the basic indicators for each observed variable have been identified and reflect the true state of firm performance for companies listed on the HOSE. These basic indicators include the mean, maximum (max) and minimum (min) values, standard deviations (Sd), variances, skewness, kurtosis, and distribution degrees.

**4.2. Correlation Analysis Results**

**Table 3: Correlation Analysis Results of Independent Variable**

	DA	LN_S	LN_A	IET	G1	G2	FMC	AGE	CV	GDP	IR
DA	1.0000										
LN_S	0.0795	1.0000									
LN_A	0.0313	0.7037	1.0000								
IET	-0.0004	-0.0326	-0.0401	1.0000							
G1	-0.0072	-0.1321	0.0563	-0.0190	1.0000						
G2	-0.0071	-0.0015	-0.0282	-0.0210	0.0068	1.0000					
FMC	-0.0143	-0.1105	0.0771	0.0073	0.2660	0.0129	1.0000				
AGE	0.0238	0.0556	-0.0003	-0.0187	-0.0469	-0.0006	-0.0273	1.0000			
CV	-0.0034	0.0789	0.1212	0.0073	-0.0137	-0.0067	0.0027	0.1675	1.0000		
GDP	-0.0061	-0.0251	-0.0692	0.0022	0.0023	-0.0046	-0.0198	-0.1077	-0.9249	1.0000	
IR	0.0154	-0.1398	-0.1498	0.0126	0.0157	0.0021	0.0061	-0.1834	-0.2715	0.1210	1.0000

The results of the correlation analysis, which is also often referred to as the multicollinearity analysis, are shown in Table 3. According to the findings, each correlation coefficient that was calculated between two independent variables had an absolute value that was lower than 0.8. As a direct consequence of this, there will be no independent variables omitted from the regression model (Bryman & Cramer, 2001). The regression model consists of nine independent variables with eleven observed variables, one dependent variable with two observed variables, and one independent variable with two observed variable.

**4.2.1. Regression Results**

**Table 4: Results of regression modeled by Pooled OLS, FEM and REM**

ROA			
	(1)	(2)	(3)
Model	OLS Model	FEM Model	REM Model
DA	-0.0107*** (0.000888)	-0.00514** (0.001830)	-0.00571*** (0.000702)
LN_S	0.0213*** (0.001780)	0.0370*** (0.005160)	0.0330*** (0.002170)
LN_A	-0.0252*** (0.001500)	-0.0315*** (0.004800)	-0.0330*** (0.002150)
IET	-0.0152** (0.005840)	(0.010200) (0.005580)	-0.0106* (0.005190)
G1	0.000657 (0.000630)	0.00153*** (0.000413)	0.00149** (0.000456)
G2	(0.000145)	(0.000084)	(0.000083)
	(0.000245)	(0.000414)	(0.000174)

FMC	0.000000	0.00000202***	0.00000157*
	(0.000001)	(0.000000)	(0.000001)
AGE	(0.000145)	-0.00526***	-0.000890**
	(0.000118)	(0.000815)	(0.000281)
CV	-0.021700	-0.0796***	-0.0315***
	(0.011900)	(0.010900)	(0.008870)
GDP	0.708*	1.662***	0.867***
	(0.297000)	(0.231000)	(0.212000)
IR	0.107**	(0.045500)	0.0854**
	(0.035700)	(0.035600)	(0.026100)
_cons	0.0740***	0.0766**	0.0506**
	(0.021300)	(0.026200)	(0.018800)
N	2,584	2584	2584
R-sq	0.152	0.167	
adj. R-sq	0.149	0.164	
rmse	0.076	0.049	0.0519
Standard errors in parentheses			
* p<0.05, ** p<0.01, *** p<0.001			
ROE			
	(1)	(2)	(3)
Model	OLS Model	FEM Model	REM Model
DA	-0.0148***	(0.01520)	-0.0152***
	(0.00178)	(0.01410)	(0.00174)
LN_S	0.0453***	0.0713***	0.0584***
	(0.00357)	(0.01010)	(0.00485)
LN_A	-0.0516***	-0.0627***	-0.0617***
	(0.00301)	(0.01020)	(0.00448)
IET	-0.0260*	-0.0304*	-0.0293*
	(0.01170)	(0.01530)	(0.01260)
G1	0.00189	0.00300***	0.00274*
	(0.00126)	(0.00082)	(0.00114)
G2	(0.00019)	(0.00013)	(0.00012)
	(0.00049)	(0.00082)	(0.00044)
FMC	0.00000	0.00000384***	0.00000
	(0.00000)	(0.00000)	(0.00000)
AGE	(0.00030)	-0.0121***	-0.000951*
	(0.00024)	(0.00201)	(0.00045)
CV	-0.0563*	-0.189***	-0.0634**
	(0.02380)	(0.02810)	(0.02140)
GDP	1.838**	3.986***	1.921***
	(0.59600)	(0.56400)	(0.52400)
IR	0.222**	(0.13900)	0.204**
	(0.07160)	(0.07060)	(0.06360)

_cons	0.101*	0.181**	0.0955*
	(0.04280)	(0.05740)	(0.04300)
N	2,584	2,584	2584
R-sq	0.135	0.129	
adj. R-sq	0.131	0.125	
rmse	0.153	0.125	0.132
Standard errors in parentheses			
* p<0.05, ** p<0.01, *** p<0.001			

**Table 5 . A summary of selected tests between the three models Pooled OLS, FEM and REM models for ROA, ROE**

	ROA	ROE
<b>Statistic test</b>	<b>FEM and REM</b>	<b>FEM and REM</b>
<b>Hausman test</b>	Prob>chi2 = 0.0000	Prob>chi2 = 0.0000
	P-value (Hausman) < 0.05	P-value (Hausman) < 0.05
	FEM	FEM

The test results for selecting the right model demonstrate that the FEM model is best for the ROA and ROE regression models. Following that, the authors investigated Heteroscedasticity using the xttest3 command for the FEM model.

**Table 6. Autocorrelation analysis of the Fem model**

Test	ROA regression	ROE regression
<b>Wooldridge</b>	F (1, 216) = 30.428	F (1, 216) = 0.244
	Prob > F = 0.0000	Prob > F = 0.6218

Using xtserial to test autocorrelation, the results indicate that the Fem model of ROA has autocorrelation since Prob>F 5%, thus rejecting the null hypothesis Ho. In contrast, with the Wooldridge test value Prob>F > 5%, the findings demonstrate that the hypothesis H0 is accepted, and there is no autocorrelation for the Fem model of ROE.

**Table 7. Checking for heteroscedasticity in the regression of ROA and ROE**

Test	ROA regression	ROE regression
<b>Wald</b>	chibar2(217) = 1.2e+05	chibar2 (217) = 1.1e+05
	Prob> chibar2=0.0000 < 0.05	Prob> chibar2=0.0000 < 0.05

Heteroskedasticity of the FEM model (using the Wald test): Use the command xttest3. The results indicate that both models of the two dependent variables ROA and ROE have p-values less than 0.05, thus rejecting the null hypothesis (with the statement Ho: the variance is homogenous). It demonstrates that the model exhibits heteroskedasticity.

**Table 8: Result of the multicollinearity by VIF Coefficient (Estat Vif) of ROA, ROE**

Variable	VIF	1/VIF
<b>cv</b>	8.68	0.115186
<b>gdp</b>	8.06	0.12401
<b>ln_s</b>	2.19	0.455645
<b>ln_a</b>	2.18	0.45795
<b>ir</b>	1.26	0.791927
<b>g1</b>	1.12	0.891993
<b>fmc</b>	1.12	0.893387
<b>age</b>	1.07	0.937672
<b>iet</b>	1	0.995429
<b>g2</b>	1	0.996684
<b>Mean VIF</b>	2.77	

Table 8 demonstrates that there are ten observed variables of six independent variables that have a VIF coefficient that is less than two, which indicates that these six independent variables do not exhibit multicollinearity (Bryman & Cramer, 2001). It can still be considered acceptable even if the Vif is less than 10, leading one to the conclusion that there is no multilinear phenomenon.

The Autocorrelation and Heteroscedasticity tests on Tables 6, and 7 confirm that the model has Autocorrelation and Heteroscedasticity. The author then rectifies the model's flaws by executing GLS.

**Table 9: Summary for regression results according to the GLS model**

	ROA		ROE	
	Beta	P-value	Beta	P-value
DA	-0.0051429	0.006	-0.0151628	0.284
Ln_s	0.0369893	0.000	0.0712803	0.000
Ln_a	-0.0314551	0.000	-0.0627411	0.000
IET	-0.0102002	0.069	-0.0304132	0.048
G1	0.0015338	0.000	0.0029998	0.000
G2	-0.0000844	0.839	-0.0001316	0.872
FMC	2.02E-06	0.000	3.84E-06	0.000
AGE	-0.0052633	0.000	-0.0121446	0.000
CV	-0.0796312	0.000	-0.1891383	0.000
GDP	1.662106	0.000	3.985883	0.000
IR	-0.0455082	0.203	-0.1385582	0.051

Table 9 demonstrates that the regression model is suitable (as evidenced by the F-statistic or 2-statistic with a p-value less than 5% significance threshold). The independent variable that explains the change in the dependent variable is performance. At the 5% significance level, only three factors, IET, FMC and IR, have no effect on the dependent variable ROA. Furthermore, at the 5% significance level, DA, and G2 show no effect on the dependent variable ROE.

Impact of business size (SIZE): The hypothesis shows that firm size has a positive impact on ROA and ROE. The SIZE regression coefficient, on the other hand, has a positive effect on

ROA and ROE. In other words, the larger the company, the lower the profitability of the company. This finding contradicts Zeitun and Tian (2007) and Onaolapo et al (2010). This disparity can be linked to the fact that firms were heavily influenced by the real estate market crisis in 2011-2013, resulting in significantly lower consumption of building materials. In such cases, the larger the company, the more money it must incur to maintain inefficient operating activities. Also in 2019-2021, The covid nineteen pandemic has halted product and service production and delivery, leading in significant sales and production reductions for huge corporations.

The hypothesis predicts that the GROWTH variable (revenue growth) will have a positive impact on ROA and ROE. However, the findings suggest that growth has insignificant effect on the financial performance of businesses. This finding contradicts studies by Zeitun and Tian (2007) and Onaolapo et al. (2010), although it is consistent with Bashir et al (2013). For example, from 2011 to 2013, constructors in Vietnam were immediately hit by the real estate market crisis, with interest rates exceeding 20% per year, and as a result, demand for building materials fell. As a result, firms in HOSE with high growth rates are not necessarily more effective than organizations with low revenue growth.

Impact of the DA variable (Capital structure): The hypothesis expect that DA has an impact on ROA and ROE. Results show that DA has a negative impact on ROA and that effect is at highest magnitude. It can be explained that the debt to asset ratio increased 1% will lead to reduction in the ROA by 0.1%. This result is consistent with Margaritis, D., & Psillaki, M. (2010) but is not consistent with Modigliani and Miller's capital structure theory (1958). It can be inferred that from 2019 to 2021, due to the impact of the pandemic, if a firm has a high debt-to-assets ratio, it may mean that it will have trouble borrowing more money or that it will be able to borrow money, but at a higher interest rate. If the ratio is lower, the company may be able to borrow money at a lower interest rate. Highly leveraged businesses may be at risk of insolvency or bankruptcy, depending on the nature of the firm and the sector in which it operates. It's possible that certain sectors are more dependent on debt than others.

IET (fixed asset investment) impact: The IET hypothesis predicts a relationship between this variable and ROA, and ROE. FAR has a negative impact on ROE factors, according to the findings. This finding is similar to that of Zeitun and Tian (2007), Onaolapo and Kajola (2010), but it differs from that of Bashir et al (2013). The result could be that during the crisis era of 2011-2013, the higher the proportion of fixed assets, the higher the depreciation and inventory expenses were. This will have a detrimental impact on the company's financial success.

The effect of the variable FMC (Account receivable days). The model's results reveal that FMC has a positive impact on both ROA and ROE, which supports the premise. In other words, when a company better manages its receivables, the company's performance improves. This conclusion is in line with Marian Siminica (2011). The average collection duration will be shorter for businesses who manage their customers' debts well and have appropriate sales rules. As a result, businesses will not face capital constraints in their operations.

Impact of age: It has been theorized that a company's age is positively associated with its performance metrics (ROA, ROE). According to the data, aging has a detrimental impact on ROE variables. This conclusion is like that of Coad et al (2018) Firm age, on the other hand, has an impact on company success because the death rate of businesses decreases with age, with organizations more likely to fail in their first few years of operation.

Impact of pandemic (Covid 19): The model's results show that Covid 19 has a negative effect on both ROA and ROE, contrary to hypothesis. To put it another way, after the coronavirus has

spread, the performance of the businesses suffers. Agus Purrwanto et al (2020) came at the different conclusion (2020).

**GDP growth's impact:** It's been hypothesized that GDP growth is favorably related to performance indicators (ROA, ROE). As a result, the theoretical forecast matches the observed results. Meanwhile, GDP has a favorable impact on both ROA and ROE, two key indices of business success. Because it is a comprehensive depiction of the complete economic landscape, GDP is often regarded as a useful indicator for any economic aspect. Therefore, a GDP in a good and stable position is beneficial to achieving exceptional company performance. Mahmoud Al-Rdaydeh (2018) came to similar conclusions.

**Impact of Inflation rate:** According to the result IR have no impact on ROA but have a negative impact on ROE. As a result, the theoretical forecast matches the observed results. When there is inflation, firms and individuals become more speculative in their stockpiling, resulting in a shortage of products. Due to aversion to risk, businesses shifted their investments away from manufacturing and into the circulation sector, leading the latter to become chaotic. The quick circulation process enhances the pace with which money circulates and so raises inflation. Ali Matar and Mahmoud Al-Rdaydeh (2018) discovered that inflation has a negative relationship with corporate performance (Alabdullah et al., 2014).

## 5. CONCLUSION

Several major conclusions can be drawn from the findings of this investigation. The favorable influence of the SIZE regression coefficient on ROA and ROE. Capital structure, on the other hand, was found to be negatively related to ROA and ROE. The negative relationship between capital structure and ROA suggests that organizations with a low debt-to-total-assets capital structure are better at asset management than those with a high debt-to-total-assets capital structure. Furthermore, the findings show that growth has insignificant impact on a company's financial performance. According to the research, IET has a negative impact on ROE factors but has no effect on ROA. FMC has a positive effect on both ROA and ROE, but AGE has a negative impact on the dependent variables, according to the model's findings.

### **Limitation of the research**

The study also has some limitations. Because the income data is selected from companies that are consistent in terms of time and transparent in financial statements, the study only selected 217 companies on the stock exchange of Ho Chi Minh City. – HOSE for a period of 12 years from 2010-2021, leading to limitations in space and time. Therefore, the study sample is not highly representative.

The study subject can also be enlarged to produce clearer experimental results, overcome the constraints of present research, and increase the data set's correctness, for example: Continue to investigate elements impacting corporate success, such as microeconomic issues like rivals, alternative goods, inventories, materials, and personnel, as well as macroeconomic ones such as inflation and other political factors that affect enterprise performance.

In addition, research also has limitations, such as when it is impossible to categorize different businesses throughout the process of data gathering and study. Even with such a huge data set, the model still has quite a few flaws, and the findings don't match the predictions made by the hypothesis. In further research, this aspect should get more attention to detail.



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# FACTORS AFFECTING THE LEVEL OF COMPLIANCE OF LAND USERS' FINANCIAL OBLIGATIONS IN VIET NAM

PhD. Nguyen Hoang Tuan<sup>1</sup>

**Abstract:** *This study is aimed at evaluating factors affecting the level of compliance of land users' financial obligations in Viet Nam. The study was based on primary data collected from the surveys of 72 key experts, tax officials and 216 land users in Vietnam. Quantitative research was carried out with SPSS 25 software. The results of this study confirm that the level of compliance of land users' financial obligations in Viet Nam is affected by factors: (1) law and policies on land users' financial obligations; (2) Cognitive level, social status and law compliance of land users; (3) management capacity of state management agencies and land users' satisfaction for service quality of state management agencies. This is an important basis to make recommendations to improve the level of compliance of land users' financial obligations in Viet Nam in the future*

**Keywords:** *land users, financial obligations, level of compliance*

## 1. INTRODUCTION

Land plays an extremely important role in the economic, political and social life of each country. In Vietnam, the land is identified as an extremely valuable resource of the country, a special production material for economic development and so one of the most important contents in the state management of land is financial management. Thus, the financial obligations of land users towards the State have been specified by tax laws, government decrees, circulars and other legal documents. However, the financial management of land still exists, inadequacies, such as the legal document system is incomprehensive and inconsistent; the budget revenue from the land is lost, etc. The impact of policies and regulations on the financial obligations of land users to the State has not been fully assessed clearly. There are many cases of evasion, fraud, insolvency and causing loss of budget revenue. From the above analysis, it can be seen that there should be complete, comprehensive and specific studies on the policy on financial obligations of land users in Vietnam today. Accordingly, this study analyzes factors affecting the level of compliance of land users' financial obligations in Viet Nam, thereby making some recommendations for improving the level of compliance of land users' financial obligations in Viet Nam.

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## 2. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES

Many studies on compliance patterns and theories have been done, such as by Allingham and Sandmo (1972), Vogel, (1974), Jackson and Milliron (1986), Fischer et al. (1992), Torgler and Murphy (2004), Molero and Pujol (2012), etc.

Allingham and Sandmo (1972) identified that there are 4 factors affecting tax compliance: Taxpayers' actual income, tax rates, probability of tax examination and sanctions.

Much of the research on tax compliance is based on social and psychological theory (Elffers, Weigel, & Hessing, 1987; Kristina, 2004; Tan, 1998). These studies suggest that the human factor is decisive for tax compliance behavior.

Jackson and Milliron (1986) experimental research show that taxpayers' behavioral intentions are influenced by a variety of factors such as beliefs, culture, social norms, opportunities for tax evasion, etc.

Molero and Pujol (2012) studied tax evasion behavior by analyzing the psychological costs of taxpayers. Molero and Pujol (2012) developed the model of Allingham and Sandmo (1972) by adding some non-economic factors on tax compliance such as the "reputation" factor to show the relationship between tax compliance and tax consciousness. They suggested that taxpayers having good morals will not intend to evade taxes even if they will be able to obtain a clear economic benefit in doing so.

Vogel (1974) has developed a theoretical model to explore the factors affecting tax evasion and points out three decisive factors of tax evasion: the exchange indicator, the indicator. Social direction, and indicating illegal opportunities.

Fischer et al. (1992) studied and organized into four groups of factors that influenced tax compliance behavior in the Fischer model. These four groups of factors include:

- Group of factors for *demographic* characteristics such as age, gender, and education.
- Group of factors for *tax non-compliance opportunities* such as income level, source of income and occupation.
- Groups of factors for *attitudes and perceptions* such as fairness and integrity in the tax system, the influence of people around them.
- Group of factors on tax structure, tax system such as complexity of the tax system, tax rates, the possibility of detecting tax evasion and sanctions.

As of late, much of the research on tax compliance behavior conducted by Vietnamese authors such as Nguyen Minh Ha and Nguyen Hoang Quan (2012), Phan thi My Dung and Le Quoc Hieu (2015), Dang Thi Bach Van (2014), etc. These studies have also shown independent factors affecting taxpayer's compliance such as the structure of the tax system; business characteristics; quality of public administration; quality of tax services; business sector; social norms; economic factors. Especially, Ha Thuc Vien and Phan Thi Thanh Truong (2016), presenting the results of interview surveys conducted with 30 experts and 130 land users in Phan Thiet city. The research results showed gradual increases in the revenue collected from land users during 2006 - 2012, but low rates of land users fulfilled their financial obligations. Main reasons leading to the poor

enforcement include financial incapability of land users, lack of understanding of land financial regulations among land users, inadequate land prices and forms of enforcing land finance

### 3. METHODOLOGY AND PROPOSED MODEL

Basing on the economics, psychology, society, and state management theories presented in section 2.1 and the characteristics of land users in Vietnam, the author selected and included in the research model of factors affecting the level of compliance of land users' financial obligations in Viet Nam, include:

- (1) Laws and policies on the financial obligations of land users to the State (PL);
- (2) Characteristics of land users (ND);
- (3) Management capacity of state management agencies (CQ);
- (4) Socio-economic factors (KT)

From the research overview, the proposed research model is as follows:

$$TT = \beta_1 + \beta_2 \times PL + \beta_3 \times ND + \beta_4 \times CQ + \beta_5 \times KT + E$$

Four hypotheses have been developed under this model:

**H1:** There is a positive relationship between the level of compliance of land users' financial obligations in Viet Nam and Laws and policies on the financial obligations of land users to the State

**H2:** There is a positive relationship between the level of compliance of land users' financial obligations in Viet Nam and characteristics of land users

**H3:** There is a positive relationship between the level of compliance of land users' financial obligations in Viet Nam and management capacity of state management agencies

**H4:** There is a positive relationship between the level of compliance of land users' financial obligations in Viet Nam and Socio-economic factors

To achieve the above objectives, questionnaires were sent out to experts, tax officials and land users in Viet Nam. The author used the standard 5-level Likert scale method with the parameters: strongly disagree, disagree, natural, agree and strongly agree. The survey results collected 300 questionnaires. After eliminating the invalid questionnaires due to many blank cells, the author used 288 questionnaires. SPSS 25 software was used for the Quantitative research.

## 4. RESEARCH RESULTS

### 4.1. Testing the scale

The results of evaluating the scale's reliability by Cronbach's Alpha show that the scales have reliability greater than 0.6 and the correlation coefficient of the total variable is greater than 0.3. All scales satisfy the conditions for EFA exploratory factor analysis. The reliability of the scales is summed up in the table below (Table 1)

**Table 1: Scale Test Results**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
<b>PL, Alpha = 0.967</b>				
PL1	16.93	39.950	.857	.965
PL2	16.96	40.198	.903	.960
PL3	16.98	39.251	.942	.956
PL4	17.02	39.049	.926	.957
PL5	16.94	39.653	.880	.962
PL6	17.18	39.476	.858	.965
ND, Alpha = 0.960				
ND1	14.15	27.179	.905	.949
ND2	14.14	29.091	.904	.949
ND3	13.95	27.994	.917	.946
ND4	14.07	27.473	.933	.943
ND5	14.35	29.850	.789	.967
CQ, Alpha = 0.977				
CQ1	24.03	76.185	.904	.974
CQ2	23.90	77.137	.894	.974
CQ3	24.00	74.787	.926	.973
CQ4	24.08	76.270	.913	.973
CQ5	24.13	74.243	.930	.972
CQ6	23.96	75.121	.916	.973
CQ7	24.10	75.622	.893	.974
CQ8	24.04	76.680	.867	.976
KT, Alpha = 0.972				
KT1	17.88	44.114	.920	.966
KT2	18.06	44.662	.898	.968
KT3	17.84	44.385	.934	.965
KT4	18.01	45.808	.861	.972
KT5	17.74	44.597	.921	.966
KT6	17.80	44.896	.920	.966
TT, Alpha = 0.967				
TT1	12.87	28.649	.896	.961
TT2	12.95	28.741	.912	.959
TT3	12.75	29.524	.889	.962
TT4	12.77	28.402	.938	.955
TT5	12.76	28.563	.898	.961

#### 4.2. Exploratory factor analysis

Factor analysis was performed with principle Component extraction, Varimax rotation for the dependent observed variable. The results show in table 2 that the coefficient KMO = 0.950 (condition > 0.5); Significance level and Barlett test = 0.000 (meet condition < 0.05) show that EFA analysis is appropriate.

**Table 2. KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.950
Approx. Chi-Square	4137.132
Bartlett's Test of Sphericity df	276
Sig.	.000

**Table 3. Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	13.638	56.823	56.823	13.638	56.823	56.823	6.198	25.826	25.826
2	1.814	7.559	64.382	1.814	7.559	64.382	5.959	24.830	50.657
3	1.216	5.068	69.450	1.216	5.068	69.450	4.510	18.793	69.450
4	.882	3.676	73.126						
5	.749	3.121	76.246						
6	.697	2.904	79.150						
7	.602	2.508	81.658						
8	.511	2.130	83.788						
9	.468	1.949	85.737						
10	.449	1.871	87.608						
11	.373	1.553	89.161						
12	.348	1.452	90.613						
13	.344	1.431	92.044						
14	.293	1.219	93.264						
15	.270	1.125	94.389						
16	.238	.990	95.379						
17	.224	.934	96.313						
18	.172	.718	97.031						
19	.162	.674	97.705						
20	.140	.585	98.290						
21	.125	.520	98.810						
22	.122	.507	99.317						
23	.102	.423	99.741						
24	.062	.259	100.000						

Extraction Method: Principal Component Analysis.

In table 3, Eigenvalues = 1.216  $\geq$  1 and extract the 3 groups of factors that mean the best summary of information. Total variance extracted = 69.450  $\geq$  50% shows that 69.450% variation of the data is explained by three new factors.

**Table 4. Rotated Component Matrix**

	Component		
	1	2	3
KT5	.815		
KT6	.800		
KT3	.786		
KT1	.725		
KT2	.714		
KT4	.689		
ND5	.680		
ND3	.657		
ND1	.552		
X02		.777	
X05		.769	
X04		.765	
X01		.718	
X03		.706	
X06		.669	
X08		.657	
X07		.626	
ND4		.505	
PA3			.807
PA4			.770
PA6			.718
PA2			.706
PA1			.681
PA5			.605

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

The results of the Rotated Component Matrix table showed that 25 observed variables were gathered into 3 factors, all observed variables had a factor loading greater than 0.5. Variables ND1 (Qualifications and awareness of laws and policies on the financial obligations of land users), ND3 (Sense of law observance on financial obligations of land users), and ND5 (reputation of land users) are not in the ND group but they jump to the KT group, so ND1, ND3 and ND5 are converging with other observational variables of KT. This is due to the same nature of the KT group. This commonality is the basis for bringing ND1, ND3 and ND5 into the new KT group. The ND4 (level of satisfaction of land users with land administration services) variable is converging with other CQ observational variables so we need to bring ND4 to the new CQ group.

### 4.3. Regression analysis

Adjusted *R* squared reflects the degree of influence of the independent variables on the variation of the dependent variable, in this case, 3 factors (CQ, PL, KT) affects 64% to the level of compliance of land users' financial obligations in Viet Nam. The Durbin-Watson coefficient is 1.754, ranging from 1.5 to 2.5, so there is no first-order sequence autocorrelation (Table 5).

**Table 5. Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.804 <sup>a</sup>	.646	.640	.78114	1.754

a. Predictors: (Constant), CQ, PL, KT

b. Dependent Variable: TT

In order to check the regression model are consistent with data sets collected and meaningful application or not, the authors continue testing the suitability of the model through accreditation ANOVA as follows (Table 6)

**Table 6. ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	206.000	3	68.667	112.535	.000 <sup>b</sup>
	Residual	112.883	185	.610		
	Total	318.883	188			

a. Dependent Variable: TT

b. Predictors: (Constant), CQ, PL, KT

In table 6, Sig test  $F = 0.000 < 0.05$ , so the regression model evaluates the influence of 3 factors (CQ, PL, KT) to the level of compliance of land users' financial obligations in Viet Nam. The model's F-statistic has a Sig value. =  $0.000 < 0.05$ , shows that the model fits the data set and can be generalized. VIF coefficients are all less than 10, so there is no multicollinearity between components that do not appear in the research model. The regression results show that the impact of the 3 factors to the level of compliance of land users' financial obligations in Viet Nam are shown in the table below (Table 7)

**Table 7. Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.453	.240		-1.891	.060		
	PL	.365	.085	.260	4.313	.000	.527	1.899
	KT	.549	.099	.456	5.565	.000	.285	3.513
	CQ	.226	.106	.168	2.119	.035	.303	3.299

a. Dependent Variable: TT

The regression equation represents the relationship between events that can be rewritten as follows:



$$TT = 0.26 PL + 0.456 KT + 0.168 CQ$$

Unstandardized beta coefficients (column B) are considered as the impact of independent variables on dependent variables. Based on the magnitude of the standardized beta coefficients, the KT variable impacts more strongly than PL and CQ variables to the level of compliance of land users' financial obligations in Viet Nam. This shows that the level of compliance with financial obligations of land users in Vietnam is most affected by socio-economic (KT) factors such as: social norms and rules on taxation; expenses and time to fulfill the financial obligations of land users; Fairness in the performance of financial obligations of land users; criticism of society; transparency in land-related transactions; fairness in sanctioning violations of financial obligations of land users; Qualifications and awareness of laws and policies on the financial obligations of land users.

In addition, the level of compliance with financial obligations of land users in Vietnam is also affected by legal factors (PL) and state management agencies (CQ) such as: time to resolve administrative procedures; professional qualifications of cadres and civil servants at state management agencies; facilities and technological equipment for management of land; organization of management apparatus; propaganda and support for guidance, coordination between tax authorities and related branches and levels, inspection work, inspection work, inspection and sanctioning, the quality of service of the relevant state management agencies, the provisions on laws and policies on land use levy, land rent, land use tax, income tax from transfer of land use rights, fees and charges in land use, fines for violations, compensation for damages to the State in land use and administrative procedures related to the financial obligations of land users.

## 5. DISCUSSION AND CONCLUSION

From the results of research on factors affecting the level of compliance of land users' financial obligations in Viet Nam, the author makes some recommendations to improve the level of compliance of land users' financial obligations in Viet Nam in the future as follows:

First, the state should improve qualifications and awareness of laws and policies on the financial obligations of land users. Accordingly, strengthening dissemination and education of law for land users; To publicize and clarify policies and laws on land use management, especially reform of administrative procedures related to land users' financial obligations.

Second, the state should promote the development and improvement of social norms and rules on taxation. Ensuring fairness in the performance of financial obligations of land users; increasing efficiency and transparency in land-related transactions.

Lastly, strengthening coordination between agencies management of real estate, environmental resources, finance and taxation; improving professional qualifications of cadres and civil servants at state management agencies; public transparency, improve the responsibility of state management agencies management staff. etc

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# **CAPITAL STRUCTURE AND FIRM PERFORMANCE: EVIDENCE FROM FISHERIES COMPANIES LISTED ON VIETNAM STOCK MARKET**

**Nguyen Dinh Minh Hieu<sup>1</sup>**

**Abstract:** *The paper studies the relationship between capital structure and firm performance by using panel data regression model for a sample of 30 fisheries companies listed on Vietnam stock market. in the 2010 - 2021 period. The results show that the impact of capital structure on the performance of listed fisheries companies in Vietnam is different when we use different metrics, which are represented by three metrics: Return on equity (ROE), Return on assets (ROA) and Earnings per share (EPS). On the other hand, the paper also shows that company size, growth opportunities positively affect the performance, whereas asset structure has a negative effect on company performance.*

**Keywords:** *Capital structure; Joint stock company; Company performance.*

## **1. INTRODUCTION**

The relationship between capital structure theory and company performance is one of the topics that have grabbed the attention of scholars in the field of corporate finance for decades. The capital structure of a company reflects the usage of debt and equity to finance its assets. The use of debt will affect the behaviors of company authorities and their financial decisions, and thus, the performance of the firm (Harris & Raviv, 1991). Therefore, the analysis of the relationship between capital structure and company performance is of importance because establishing and maintaining an appropriate capital structure will increase the performance, maximizing shareholder assets, which has always been the main goal of business managers.

Modigliani and Miller (1958) argued that in perfect capital market, strategies have no effect on the value of the firm, however firm value can be increased by changing the capital structure because of the advantage of debt tax. They argue that in perfect capital markets, when investors' expectations are homogeneous, and there are no tax and transaction costs, capital structure has no impact on company value. Investors tend to buy undervalued stocks and sell overvalued stocks for income generation. When investors exploit these arbitrage opportunities, the price of the overvalued stocks fall and that of undervalued stocks rises, until both prices are equal.

However, these assumptions are not entirely applicable in practice. A paper recorded that there can be an optimal capital structure, but there is no specific methodology guaranteeing that an optimal level of debt can be achieved. However, financial theory can help us understand how financial decisions affects a company's value.

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A suitable capital structure becomes important for financial managers in fisheries companies during the 2010 - 2021 period. In recent years fisheries companies in Vietnam have witnessed a rapid development, export market is expanded. However, this is considered to be the most difficult period for the fisheries industry when the size of the export market is narrowed, raw materials are not sufficient, non-price competition becomes commonplace, revenue declines, trade protection barriers,... If there are no strategies to increase operational efficiency, fisheries companies will not be able to take advantage of the available advantages and may fall into recession or bankruptcy. Therefore, the study aims to determine the relationship between capital structure and firm performance, represented by Return on equity (ROE), Return on assets (ROA) and Earnings per share (EPS), in the context of economic downturn over the 2010-2021 period in listed fisheries companies in Vietnam, thereby proposing measures to help companies improve their performance.

The next part of the paper is organized as follows: Part 2 provides an overview of the research; Part 3 illustrates the research model; Part 4 presents research data; Part 5 points out research results; Part 6 states the conclusion and offers some recommendations.

## **2. OVERVIEW**

The company's performance is affected by different factors and capital structure is one of the important influencing factors. There have been many empirical studies in the world analyzing the relationship between business performance and capital structure, these studies have pointed out different results:

Roden & Lewellen (1995) considered the capital structure of 48 firms in the US in the 1981-1990 period and recorded a proportional relationship between capital structure and firm performance. Similar results were reported by Champion (1999) and Gosh et al. (2000).

Jensen and Meckling (1975) found no any significant effect of financial leverage and Khan (2012) had similar results. There is evidence of a nonlinear relationship between capital structure and firm performance.

Hadlock and James (2002) reported that highly profitable corporations have high levels of debt. According to Abor (2005), the capital structure as measured by TD is proportional to the performance of Ghanaian companies in the 1998 - 2002 period.

Kester (1986) argued that capital structure is inversely related to company performance (profitability) in the US and Japan . Similar results were reported by Friend and Lang (1988), Titman and Wessels (1988) from US firms, Rajan and Zingales (1995) in G7 countries, and Wald (1999) in developed countries. In addition, Wiwattanakantang (1999) pointed out an inverse relationship between market leverage, bookkeeping and ROA from 270 firms in Thailand. Haung and Song (2006) also found an inverse correlation between leverage and firm performance... Ebaid (2009) studied the influence of capital structure choice on the performance of 64 companies. company from 1997 to 2005 in Egypt, using accounting-based measures, including ROA, ROE and gross profit margin, recording that the choice of capital structure has little or no effect on the performance of the company.

Hovakimian, Hovakimian and Tehranian (2004) showed that earnings and stock returns have no impact on target leverage. Losing companies issue equity to offset excess leverage due to accumulated losses. Therefore, this study supported the view that firms should have a target capital structure. However, when stock prices are relatively high, the tendency to sell equity will hinder a company's ability to maintain a debt ratio close to its target.

Razak and Aliahmed (2008) examined the effects of ownership structure and the performance of 210 state-owned and non-state-owned companies in Malaysia from 1995 to 2005. The study results argued that government management of firm size, leverage and growth, etc. has a great impact on the performance of the company. This finding has important implications for investors and policymakers, which will serve as a guide for better investment decisions. Zertun and Tian (2007) evaluated the impact of capital structure on the performance of 167 Jordanian firms in the 1989 - 2003 period using panel data regression models, concluding that capital structure have a significant negative impact on business performance.

San and Heng (2011) studied construction companies listed in Malaysia in the 2005 - 2008 period, concluding that there exists a relationship between capital structure and firm performance, while there is no multicollinearity relationship between the studied variables. A study by Pratheepkanth (2011) found an inverse relationship between capital structure and firm performance in the 2005 - 2009 period in Sri Lanka.

Pathak (2011) reported that debt levels have a negative impact on firm performance, this finding was different from many studies that were conducted with Western economies, but consistent with the results obtained from studies in most Asian countries. An important reason for this contradiction is that borrowing costs in developing countries such as India, Pakistan, Bangladesh, etc. are still high compared to Western countries.

In Vietnam, the relationship between capital structure and performance has also been studied by a number of researchers. Vinh (2011) used the data of enterprises listed on the Hanoi stock market to study the relationship between capital structure and firm performance and reported that the use of debt has a positive impact on firm performance. Le and Phung (2013) studied this relationship of companies listed on Vietnam stock market in the 2007 - 2011 period and found a proportional relationship. Ngoc (2017) indicated that capital structure has a negative effect on the performance of enterprises, the analysis was carried out with 130 joint stock companies in Thua Thien Hue province in the 2010 - 2014 period. However, to the knowledge of the author, so far, there has been no research on the impact of capital structure on the performance of fisheries companies listed on the Vietnam stock market during the 2010 - 2021 period.

### **3. RESEARCH MODEL**

#### **3.1. Variables**

The study uses 03 indicators to measure the performance of enterprises, including: Return on total assets (ROA) measured by Profit after tax/Total assets (Shahid, 2003), Return on equity (ROE) measured by Profit after tax/Total equity (Zeitun & Tian, 2007; Abor, 2005), Earnings per share (EPS) measured by Profit after tax/Number of shares (Hasan & associates, 2014).

Variables representing capital structure (Abor, 2005; Abor, 2007; Ebaid, 2009): ratio of Total Debt/Total Assets (TD). In addition to capital structure variables: size of firms (SIZE), (in logarithms) total assets; growth opportunity (GROWTH), calculated by the growth rate of sales; Asset Structure (AST), calculated by Long-Term Assets/Total Assets, which is also incorporated into the model as control variables.

### 3.2. Hypothesis

Based on the theoretical basis and previous studies, the study provides expected impact of capital structure on the performance of fisheries companies listed on Vietnam stock market in the 2010 - 2021 period of as follows (The “-” sign represents the negative effect, the “+” sign represents the positive effect):

**Table 1: Expected impact of variables**

Number	Variables	Abbreviation	Expected sign
1	Total debt	TD	+/-
2	Size of firms	SIZE	+
3	Growth opportunity	GROWTH	+
4	Asset structure	AST	+

(Source: Author's compilation)

### 3.3. Experimental framework

The study used ordinary least squares (OLS) method to examine the effect of capital structure on firm performance. Hausman's test was then used to find out between the fixed-effects model (FEM) and the random-effects model (REM), which one is suitable for the three research models. The result showed that REM is appropriate with the characteristics of the data in the model of the impact of capital structure on EPS. The study also checked some essential tests for the regression hypothesis in all three models to ensure that the results of the regression model are not affected by autocorrelation, multicollinearity and heteroskedasticity.

Finally, to confirm our research results, the FGLS model was performed to recalculate the standard errors in case the model violates the regression assumptions.

### 3.4. Empirical model

The research model in this paper is as follows:

$$ROA_{i,t} = \beta_0 + \beta_1 STD_{i,t} + \beta_2 LTD_{i,t} + \beta_3 TD_{i,t} + \beta_4 Size_{i,t} + \beta_5 Growth_{i,t} + \varepsilon_{i,t} \quad (1)$$

$$ROE_{i,t} = \beta_0 + \beta_1 STD_{i,t} + \beta_2 LTD_{i,t} + \beta_3 TD_{i,t} + \beta_4 Size_{i,t} + \beta_5 Growth_{i,t} + \varepsilon_{i,t} \quad (2)$$

$$EPS_{i,t} = \beta_0 + \beta_1 STD_{i,t} + \beta_2 LTD_{i,t} + \beta_3 TD_{i,t} + \beta_4 Size_{i,t} + \beta_5 Growth_{i,t} + \varepsilon_{i,t} \quad (3)$$

In which  $\beta_0$ : Constance;  $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ : Coefficient of regression;  $\varepsilon_{i,t}$ : Error

In the quantitative model of this study, the influence of other indicators will not be considered. This does not mean that the results negate the impact of these indicators on the performance of enterprises, but meaning that the study only focuses on the influence of the variables TD, SIZE, GROWTH, AST.

#### 4. RESEARCH DATA

The data used in this study is taken from the financial statements of 30 fisheries companies listed on the Vietnam stock market, with 03 companies listed on HNX, 9 companies listed on HOSE, 18 companies listed company on UPCOM during the 2010 - 2021 period.

#### 5. RESULT

##### 5.1. Descriptive Statistics

**Table 2: Descriptive Statistics**

No.	Variables	Mean	Maximum	Minimum	Std. Dev.
1	ROA	-0,0055753	1,381	-1,6268	0,2067197
2	ROE	-0,1429575	17,5113	-39,2837	2,965775
3	EPS	815,9453	15.848,17	-36.907,16	4.710,248
4	TD	1,074743	23,1793	0,0336	2,2646
5	SIZE	11,76734	13,2593	8,705	0,6063144
6	GROWTH	-0,167665	1	-9,69	1,029623
7	AST	0,3494944	0,1835041	0	0,1835041

(Source: Author's compilation)

Table 2 describes the variables used in the paper. The average value of ROA of studied joint stock companies is about -0.55%, ROE is only about -14,293%, EPS is about 815.95 VND. This initially shows that during the 2010 - 2021 period, fisheries companies in Vietnam are not operating efficiently. The average capital structure of these companies is 107.4743%, showing that their debt ratio is high, more than twice the total capital.

##### 5.2. Regression results

The study performed regression with balance sheet data according to all three models Pooled OLS, FEM and REM for three models (1), (2) and (3). Hausman and Breusch - Pagan LM tests showed that REM is the most suitable model for models (1) and (2), FEM is the most suitable model for model (3).

After checking model defects and fixing them, the regression results (Table 3) showed that the coefficient of the variable TD has a negative sign and is statistically significant at 1% for ROA, and has a positive sign and 5% significant for ROE. This shows that the the impacts of capital structure on the performance of listed companies in the fisheries industry in Vietnam are different when we use different metrics and there are no multicollinearity between the studied variables:

**Table 3: Regression results of the impact of capital structure on ROE, ROA and EPS**

No.	Variables	ROA	ROE	EPS
1	TD	-0,0670151***	0,1839728**	-175,2606
2	SIZE	0,0269877**	0,5285259*	1.428,62***
3	GROWTH	0,0298767***	0,8862131***	1.033,225**
4	AST	-0,0485401	-1.984166**	-3.292,229***
5	Const	-0,2273141*	-5,717985*	-14.482,91***

Note: \*, \*\*, \*\*\* : meaning 10%, 5% và 1%.

(Source: Author's compilation)

The coefficient of the variable SIZE has a positive sign and is statistically significant in all three models (1), (2) and (3). Statistical significance is at 1% for model (3), 5% for model (2), and 10% for model (1) with 1% significance level. This shows that the size of a company has a positively effect on the performance of listed companies in the fisheries industry in Vietnam.

The variable growth rate GROWTH positively affects the performance of the company. The coefficient of this variable has a positive sign and is statistically significant at 1% for model (1) and (2), at 5% for model in model (3). This result shows that companies in the fisheries industry with high growth opportunities will be able to generate high profits.

Contrary to expectations, the coefficient of the asset structure variable AST is negative in the three models. Statistical significance is at 1% in model (3), 10% in model (2), but there is no statistical significance in model (1). This shows that asset structure has a negative impact on EPS and ROE. Because the larger the asset structure is, the more the company invests in facilities and equipment and the more investment projects that can bring high returns, the negative sign of ATS indicates the use of long-term assets of listed companies in the fisheries industry in Vietnam are not effective.

## 6. CONCLUSIONS AND RECOMMENDATIONS

This study used panel data of 30 listed joint stock companies in the fisheries industry in Vietnam in the 2010 - 2021 period to analyze the impact of capital structure (represented by the ratio of Total Debt/Total Assets) on the performance of a company (represented by three indicators ROE, ROA and EPS). To select the appropriate model, the study used a regression model with panel data with 3 models Pooled OLS, FEM and REM and performed necessary tests to select the proper model. After removing the defects, the results from the selected model show that capital structure has different effects on the indicators represented the performance of listed joint stock companies in the fisheries industry in Vietnam. In addition, the performance of joint stock companies is positively affected by the size of the enterprise and the growth rate. However, ROE and EPS are negatively affected by corporate asset structure.

The abovementioned results indicate that managers of listed joint stock companies in the fisheries industry in Vietnam need to understand the role of capital structure in corporate performance. Currently, the debt capital of these companies accounts for a high proportion of the total capital (more



than 2 times) and the research results show that ROA has a negative impact on the performance of the business, ROE has a proportional relationship with the performance of the business.

In addition, these companies also need to make better use of the company's advantages of scale and growth opportunities to improve operational efficiency because both size and growth opportunities positively affect efficiency. business activities. Finally, managers of companies must improve the efficiency of long-term asset use in order to improve Earnings per share and thereby increasing the value of the company's stock.

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# RESEARCH FOR ENVIRONMENTAL ACCOUNTING IN VIETNAM

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**Abstract:** *Vietnam's socio-economic development strategy for 2021-2030 in the document of the 13th Congress of the Communist Party of Vietnam identifies a focus on sustainable economic development associated with environmental issues, climate change, and social security. Businesses need to understand the benefits of implementing environmental accounting. Along with that, the global trend of green growth and sustainable development on a global scale has placed an urgent requirement on providing environmental information and building environmental accounting in businesses. This study presents some fundamental issues for building environmental accounting in Vietnam today.*

**Keywords:** *Accounting, Environmental Accounting, Sustainable development*

## 1. INTRODUCTION

In the Document of the 13th Congress of the Communist Party of Vietnam, the significant relationship “Between economic growth and cultural development, realizing progress and social justice” is added with the element: “protecting the environment”; The socio-economic development strategy 2021 - 2026 continues to affirm: “Fast and sustainable development; harmonious development between economy, culture, society, environmental protection and adaptation to climate change.” Recognizing the importance of this relationship, our Party always upholds environmental protection for sustainable development. Sustainable development is not a new topic, but this issue is increasingly urgent globally, becoming an objective requirement of development and attracting special attention from countries worldwide. Sustainable development is also a big challenge for countries, especially developing countries, in the current trend of globalization and international integration, under the strong impact of the Fourth Industrial Revolution. All countries have set goals for rapid and sustainable development, step by step, solving this problem with solutions and steps suitable to their countries' development level and specific conditions. At the same time, the requirements for environmental information in some European countries, Australia, etc., are increasingly strict, forcing businesses wishing to participate in the globalization process to meet the information needs of their customers. According to Wabuyi Jimmy Franklin (2009), one of the deciding factors in applying environmental accounting is tracking cost savings for businesses. Environmental accounting becomes a tool to support managers to run businesses better and reduce and control costs more effectively, bringing financial benefits and competitive advantage. In order to fully reflect information about the environment, Vietnamese businesses must carry out environmental accounting.

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## **2. ENVIRONMENTAL ACCOUNTING**

### **2.1. Denifition**

Although environmental accounting has long existed globally, it looks pretty new in Vietnam. Environmental accounting measures the impact of a particular economic entity's activities on the environment. Measuring and determining the impact of the environment on the environment is a comprehensive socio-economic estimate that is difficult to combine with each specific economic entity. Therefore, even measuring environmental impact can hardly be considered the object of environmental accounting. However, environmental issues that become the subject of environmental accounting must be discussed directly and indirectly together with the activities of individual economic organizations. Environmental accounting distinguishes or separates the measures and reporting of environmental problems associated with an individual economic entity from the estimation of its financial performance. Environmental accounting, in particular, needs to understand how companies treat this new social responsibility, a new accounting topic that emerged in the 1970s. Although information accounting has been around since the 1960s, introducing the idea to include environmental accounting, the formal formation of environmental accounting has not yet been recognized by society.

Environmental accounting is a professional accounting with accounting elements such as environmental assets, environmental costs, and environmental benefits. All elements of environmental accounting are converted into currency according to specific measurement methods. But the monetary meaning of monetary units in environmental accounting is not entirely based on labor value theory. According to the labor-power theory of value, only exchangeable commodities whose value is measured by the socially necessary labor time, for non-exchangeable commodities, Non-humans cannot be measured, and accountants do not need to account for them. However, a significant part of these non-exchange and non-human labor items is the accounting content of environmental accounting, so environmental accounting must establish a valid theory of value. According to the "Modern Accounting Encyclopedia," *environmental accounting* is "an activity of managing, measuring, and reporting the impact of social activities of enterprises, organizations, and other entities on the environment from the perspective of social benefits. Ienciu (2009) argues that environmental accounting records analyze and report environmental impacts, as well as environmental impacts of an economic system, to provide users with a clear and complete picture of the efficiency of the economic activity of the whole economic system.

### **2.2. Goals of environmental accounting**

Using accounting to measure, reflect and control social and environmental resources, improve resource and environmental issues, and optimize economic, ecological, and social benefits. Based on the requirements of environmental macro-management, businesses must attach great importance to the ecological environment and rationally use natural resources, adhere to the sustainable development strategy, and maximize the benefits for the environment. Environment and society at the same time to conduct production, operation and achieve economic efficiency.

Make corresponding accounting, confirm and measure the value of natural resources, consumption of natural resources, spending on environmental protection and the benefits brought by improvement of resources and environment, etc. Of course, the ultimate goal of providing environmental accounting information to stakeholders is to control and coordinate the relationship between economic benefits and environmental resources to achieve optimization. Environmental, social, and economic benefits simultaneously while achieving harmony and unity between economic development, social progress, and environmental protection.

### **2.3. The need for environmental accounting**

Environmental accounting is created based on environmental resource degradation and the limitations of traditional accounting. In traditional accounting, only the existence of ownership of assets has a price, which can be reflected in the accounting statements. However, things that are vital to humans, such as the air, ocean, and ozone layer, without ownership cannot be fully accounted for in the enterprise's use, and damage to the environment is not accounted into operating expenses.

After entering the 21st century, environmental issues have attracted wider attention from all walks of life. In order to protect nature and the environment and develop sustainable economic and social, the costs of environmental protection and the responsibility to compensate for environmental damage are increasing. Accounting reflects and controls socio-economic activities, which should reflect and control the spending and income of the environment. Environmental accounting ultimately emphasizes the limitation and scarcity of environmental resources, fixing values and prices to compensate for losses, thereby expanding the responsibility of enterprises to society, forcing businesses to comprehensively consider economic, social, and ecological benefits and achieve sustainable economic development. Environmental accounting can be used to answer questions such as: Which industries are emitting the most greenhouse gases? How do consumption and production patterns affect the environment? What is the impact of economic policy measures, such as environmental taxes, on waste generation or emissions? How fast is the environmental economy growing, and how does it compare to the rest of the economy? This will be the new, important accounting department in the enterprise accounting system. This section helps to provide complete information on economic activities related to the environment.

### **3. ENVIRONMENTAL ACCOUNTING IN VIETNAM**

Specifically, the National Assembly promulgated the Environmental Law for the first time in 1993 and the amended Law on Environmental Protection in 2005. Then, on November 15, 2010, the Law on Environmental Protection Tax (Law No. 57/2010) /QH12) was approved by the National Assembly at the eighth session of the 12th National Assembly. On that basis, on August 8, 2011, the Government issued Decree 67/2011/ND-CP stipulating taxable objects, tax bases, tax declaration, tax calculation, tax payment, and insurance tax refund environmental protection; The Ministry of Finance promulgates the following circulars: Circular No. 152/2011/TT-BTC dated 11/11/2011 guiding the implementation of Decree No. 67/2011/ND-CP; Circular No. 159/2012/TT-BTC dated September 28, 2012, amending and supplementing Circular No. 152/2011/TT-BTC; Circular No. 156/2013/TT-BTC dated November 6, 2013, guiding the implementation of several articles of the Law on Tax Administration, the Law amending and supplementing many

articles of the Law on Tax Administration and Decree No. 83/2013 /ND-CP dated 22/7/2013 of the Government. However, these policies still have many shortcomings and are not synchronized. In an implementation, there are still many difficulties. Sanctions for violating individuals and businesses are still light and have not been highly effective.

Regarding the legal framework for accounting work, Vietnam has not yet issued an accounting regime related to the organization of environmental accounting at enterprises. The current regime does not have documents guiding enterprises in separating and monitoring environmental costs from production and business costs. There are no specific accounting accounts used to record significant costs related to the environment, such as the depreciation of equipment, waste treatment workshops, costs of environmental monitoring, costs of labor safety, repair costs, compensation, troubleshooting costs and cleaning up costs, handling in accidents, destruction of the ecological and living environment. Currently, these expenses and income have not been shown in the income statement and are not specifically explained in the notes to the financial statements. So, it makes it difficult for users of environmental accounting information, especially managers, to detect the scale and nature of environmental costs in general and each environmental cost item in particular. At the same time, it is difficult for managers to get a complete picture to fully and accurately evaluate the performance of the business, as well as to recognize the social responsibility of their business.

## **4. DISCUSSION**

### **4.1. Main point of view**

Environmental accounting is a type of accounting developed based on traditional accounting and considering the influence of environmental factors, so the division of accounting elements is suitable for traditional accounting. I.e., it should be divided into assets, liabilities, equity, income, expenses, and profits, but must be different in specific content. For example, in the asset element, green accountants should put “environmental assets,” “contingency for environmental asset loss,” and “net worth of environmental assets”; in the element of liability, “environmental responsibility” should be placed, including the payable environmental resource consumption fee, the environmental resource protection fee payable; setting aside “environmental capital” in the equity element; the deduction of “environmental revenue” as an income element to account for subsidies, bonuses, and tax deductions granted by the State to enterprises performing environmental protection and environmental management, and compensation for damage to the environment. Environment or adequate income transferred by other entities and individuals; “environmental cost” is included in the cost factor, and “environmental profit” is in addition to the profit factor.

### **4.2. Accounting principles**

Although environmental accounting in Vietnam is not new, it has not yet attracted adequate attention. Many factors will be needed to apply environmental accounting in Vietnam, including improving the legal environment and promulgating an environmental accounting framework. Based on gradually converging with international accounting standards, Vietnam is improving its accounting regimes towards full compliance with international accounting standards, especially accounting standards.

(1) Change the accounting assumptions. The accounting assumptions of traditional accounting include accounting subject, business going concerned, accounting period, and monetary measurement. Compared with traditional accounting, the accounting content of environmental accounting is quite different; it is inevitable to adjust accounting assumptions accordingly, but it is not necessary to start over, so the basic premise The version of environmental accounting can be defined as the accounting object, going concerned, accounting period and multiple measurements. The assumption of multiple measures means that monetary measurement is critical in environmental accounting, but given the complexity of environmental factors, monetary measurement cannot be used. In many cases, physical measures, percentages, or indices should be used as auxiliary methods.

(2) Changes in accounting principles. Because of the changes in the content of environmental accounting and its assumptions, its accounting principles also need to inherit and develop traditional accounting principles and, at the same time, establish their characteristics, which can be summarized into three aspects which are policy principles, social principles, compulsory and voluntary association principles.

Policy principles mean that environmental accounting must fully reflect national undertakings and policies, strictly comply with relevant national laws and regulations, correctly handle the relationship between profitable businesses, and protect environmental resources, business interests, and social benefits.

Social principles mean that environmental accounting requires businesses to stand on a social perspective, be responsible for environmental resources, and consider the benefits of the business. Society's assessment of businesses must abandon the current concept of simply taking the operating profit as the standard; instead, it is the green profit generated by the business. At the same time, the accounting information enterprises provide must be beneficial to the country's macro-management and control.

The principle of mandatory and voluntary association means that in an environmental accounting system, relevant government agencies or organizations need to make clear and mandatory rules to disclose financial information. Minimal environmental resources of the business while encouraging businesses to report as much as possible. The public and relevant government agencies or organizations provide environmental resource information.

### **4.3. Environmental accounting measurement**

Measuring environmental accounting is recording economic issues related to environmental resources and listing them in accounting reports to determine value. However, measuring the value of environmental resources also has certain difficulties. In general, measuring environmental resource value can use many different methods such as direct market, alternative market, etc.

The accounting information released by environmental accounting provides stakeholders with accurate and effective accounting information to meet decision-makers' analysis and decision-making needs. It can be divided into two parts: the specific presentation of environmental costs and related capital costs incurred by the enterprise in the current period that should be recognized in profit and loss in the current period. Accounting for the current period of the company; In the

description of the report, the environmental policies implemented by the enterprise are presented, the implementation status and long-term goals of the enterprise for environmental management and environmental protection, etc.

As a branch of accounting, environmental accounting is the product of a combination of environmental issues and accounting theories and methods, which must be similar or similar to modern accounting in many respects, such as accounting assumptions-basic accounting, accounting principles, accounting confirmations, accounting measures, accounting records, and accounting reports. However, due to the variety of environmental issues and the complexity of resource use, environmental accounting is bound to take on its peculiarities: first, the characteristics of accounting content. The content of environmental accounting mainly has the following characteristics: the uncertainty of economic business activities, comprehensiveness, and longevity of environmental and economic business activities. Second, the characteristics of cost measurement. The third is the diversity of research methods. Traditional accounting research mainly uses the basic theoretical methods of political economy and mathematics, while environmental accounting needs to involve more fields. Fourth, the characteristics of the report form. Environmental accounting reports should disclose financial and non-financial information (the company's environmental objectives and performance, measures taken to manage the environment, etc.).

#### **4.4. Implementation Procedure**

##### About accounting regulations

- (1) Clarify the principles, purposes, and requirements to which the regulations are to be followed.
- (2) Environmental accounting management system planning. The main contents include leadership responsibilities of unit leaders and chief accountants; responsibilities and powers of the responsible person of the accounting department and the accounting organization, of the person controlling the accounting; a form of accounting organization, etc.
- (3) Establish the following responsibility system for accounting staff. The main contents include: defining the work of accountants, responsibilities, and standards of each accounting job, and personnel and specific labor division of each accounting job.
- (4) Compiling an environmental accounting and accounting process system. The main contents include: the preparation and use of accounting objects and their detailed objects; the format of accounting documents, audit requirements, and delivery procedures; accounting method; making accounting books; design of accounting reports;
- (5) Standardize the audit system. The main contents include organizational form and specific division of labor of the audit work, responsibility and authority of the audit work, methods of auditing accounting vouchers, and reviewing accounting books and reports.
- (6) Form a green cost accounting system. The main contents include cost calculation, methods, and procedures for cost accounting; cost analysis.
- (7) Implement an environmental accounting analysis system. Main contents include the main content of analysis, fundamental requirements of the analysis; specific analytical methods; request analysis report, etc.



### Accounting system

(1) Identify environmental accounting objects.

(2) Identify the object of environmental accounting: Environmental accounting takes the type of environmental business as an accounting object, such as environmental management, environmental pollution, water resources, land resources, etc.

(3) Validation and measurement of environmental accounting: Environmental accounting validation is the process of defining and formally defining the recording of environmentally related economic transactions as an accounting element and listing them in the accounting reports following regulatory standards. Measuring environmental accounting is quantifying to include economic business activities related to the environment as an accounting element in an accounting report. This measurement can include cost, present cost, replacement cost, opportunity cost, etc, if listed in report notes or as supplemental report data or non-monetary measurement.

(4) Implement the account setting of the green accountant: Assets: should be included in deferred assets, land resources, spending on social and environmental welfare projects, etc. Liabilities: should include environmental protection tax payable, environmental protection fee payable, etc. Equity category: should include resource capital (distinguish between countries, businesses, individuals, etc.), resource capital assessment, etc. Expenses: should include environmental prevention costs, environmental management costs, environmental compensation costs, environmental opportunity costs, etc.

(5) Set up environmental accounting report: Environmental accounting data can be listed in traditional accounting reports, and ancillary reports can also be added, such as environmental profit and loss statements, environmental cost details, etc.

## **5. CONCLUSION**

### **5.1. General conclusion**

The development of science and technology, population growth, and expanding social needs have exhausted natural resources that are exploited to their fullest extent, and environmental pollution has become increasingly severe. Fundamental to developing the economy and improving people's living standards. The importance of Environmental accounting is shown in that: firstly, environmental accounting can guide and monitor businesses to protect resources and maintain ecological balance through the most economical and social activities. The second is the requirement for the development of the business itself. The traditional business development model of high input and low output will inevitably lead to the development and consume too many resources; High pollution and low efficiency will inevitably lead to a severe lag in the ability to compensate for the ecological environment, hindering the development of enterprises themselves. From the perspective of long-term business benefits, we can always maintain a competitive advantage by increasing investment in environmental protection and paying attention to environmental accounting. Third, measuring enterprises' gross national product and production costs accurately is necessary. By calculating the cost of social resources, environmental accounting can more accurately reflect enterprises' gross national product and production costs, promoting enterprises to

exploit their intrinsic potential and maintain their sustainable environmental and social resources. Fourth, corporate responsibility must be extended to society. The development of the economy and the diversification of human needs require businesses to switch from purely pursuing the speed and efficiency of economic development before to pursuing the synchronous development of the economy, social and natural environment. At the same time, it must reflect and control the relationship with the ecological environment, calculate and record environmental costs and benefits of enterprises, and provide information on the implementation of environmental responsibilities. Fifthly, it is necessary to correctly calculate the operating results of the enterprise, accurately analyze the financial risks of the enterprise, and comprehensively assess the performance needs of the managers. When calculating operating results on the profit and loss statement, an enterprise's performance can only be properly calculated if the consumption of the enterprise's impact on the environment is reflected as an income deduction; environmental damage is added to the total liabilities. To get the correct, reliable asset/liabilities ratio and accurately analyze the financial risks of the business. Environmental accounting discloses information that a business fulfills its social responsibility and can comprehensively evaluate managers' performance from a social perspective, not just from a business perspective.

## **5.2. Some recommendations for implementing environmental accounting in Vietnam**

In creating the environmental accounting of Vietnam, the following principles should also be followed. One is policy principles. The requirements of national undertakings, policies, laws, and regulations should be reflected in environmental accounting. The second is the social principle. In order to demonstrate the responsibility of enterprises for resources and the environment, environmental accounting must require enterprises to stand from a social perspective and consider the results of their operations. The evaluation of enterprises should be based on whether the social benefits can match the social benefits with the social costs in the enterprise. The accounting information it provides serves the enterprise's internal work and contributes to the management and macro regulation. The third is the principle of combining reference and innovation. That is to say, the construction of environmental accounting in Vietnam cannot be followed entirely but needs to be continuously innovated, developed, and perfected according to the specific conditions of Vietnam. The fourth is the principle of combining compulsory and voluntary; relevant ministries such as the Ministry of Finance, the Ministry of Natural Resources and Environment, etc., must make clear and mandatory regulations on Business minimum information disclosure. Of course, if businesses are proactive in disclosing as much environmental information as possible, governments and the public should be supportive and encouraging.

Vietnam should also take corresponding measures. One is to amend the accounting law, including environmental accounting and supervision in accounting; the law affirms its position and role in legal form and is also the most potent means of applying it in practice. The second is to improve accounting standards. That is to include environmental-related content into accounting elements and become the content that must be disclosed to prevent fraudulent acts of relevant departments and units. The third is to set up an accounting system. The accounting system is designed according to the relevant environmental principles specified in the accounting standards so that environmental accounting can be operated and easily understood by the accountant. The

fourth is to give a clear price signal; to a certain extent, the government will try to use no or less free measures to use resources. Free only applies to endless resources. The free consumption of limited resources inevitably leads to depletion and deterioration and is also not conducive to environmental accounting measures. Fifth, there must be an appropriate accounting theory orientation. It is required by the government to properly guide the accounting theory to do some research on environmental accounting, improve the level of environmental accounting theory in Vietnam, and promote the integration of accounting theory. Green with accounting practice as soon as possible.

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# CREATING WORK MOTIVATION THROUGH FINANCIAL INSTRUMENTS FOR EMPLOYEES OF FDI ENTERPRISES IN HANOI

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**Abstract:** *In recent years, a major part of employees at FDI enterprises have their material and spiritual benefits considerably improved with average income higher than employees of domestic enterprises in Hanoi. These are the basic motivation for them to work with enthusiasm and loyalty. However, there are certain facts that some FDI enterprises underpay their employees, employees' salaries are unaffordable, work environment is harmful and non-processed, work equipment and facilities do not meet hygiene standards, working safety is avoided, and there is lack of accommodation. Due to the low and insecure physical and mental living conditions for employees of some FDI enterprises in Hanoi, leading to the fact of employees' strikes and protests for salary raising, working environment improving, demanding business owners to pay more attention to their law-protected rights and benefits. On the other hand, because their benefits are violated and salaries are low, leading to multiple difficulties in life, there have been a number of employees falling into social evils. These negative deeds arose among the living of employees of FDI enterprises in Hanoi have considerably impacted on the economic development and social security of the city. To tackle these activities, the creating of work motivation for employees at FDI enterprises in Hanoi by means of financial instruments need to be studied to produce systematic, consistent, and feasible solutions. This paper analyzes and assesses the practical activities to create working motivation by means of salary, bonus and welfare policies towards employees. Based on these policies, the authors recommend solutions to improve the working motivation efficiency of the FDI enterprises in the city of Hanoi.*

**Keywords:** *Work motivation, creating work motivation, FDI enterprises, FDI enterprises in Hanoi*

## 1. INTRODUCTION

In the period 2016-2020, Hanoi attracted \$25 billion of FDI, equivalent to 4.08 times higher than the period 2011-2015, ranking number one in Vietnam in the two successive years 2018 and 2019; the effective aggregate FDI figure is 6,278 projects with total investment value of more than \$47.7 billion, and the disbursement amount has reached \$28.5 billion. In 2020, Hanoi attracted \$1,907 million including \$662 million of 464 newly approved projects and \$1,245 million of supplement projects; foreign investors contributed or acquired the investment capital of \$1,280 million. In which, there were a wide range of major projects approved from the earlier months of 2020 such as: Nidec Chaun Choung Vietnam (Japan) \$174.5 million; Hanoi Lotte World Aquarium

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(Korea) \$47 million; Building Project 29 Lieu Giai (Twin Peaks) additionally increased investment capital \$246 million, etc.

At present, Hanoi contributes 12.8% foreign capital, 10.4% state budget revenue and positively engages in technology transfer, job creation as well as employee capacity building activities. Particularly, Samsung R&D Center Vietnam (Korea), situated in the west part of the West Lake, is considered the biggest project in the Southeast Asian to foster research and development of smart products, artificial intelligence, Internet of things, big data, and 5G network, etc. Similarly, the development project of smart city of North Red River (Nhat Tan - Noi Bai) initiated by the consortium of BRG (Vietnam) and Sumitomo Group (Japan) with total investment capital of \$4 billion targets at establishing state-of-the-art commercial and financial centers at regional level.

From the perspective of investors, regional director of International Finance Company (IFC) in charge of Vietnam, Laos and Cambodia, Kyle Kelhopher shared: "Hanoi has advantages of infrastructure and workforce that attract foreign investors to finance in large hi-tech projects and benefits from emerging waves of supply chain transition". Meanwhile, Chief Representative of the Japan External Trade Organization (Jetro) in Hanoi, Takeo Nakajima confirmed that there had been 41% Japanese firms considering operational expansion in Vietnam in the coming three years. It is obviously good news for Hanoi to take advantage of its national top-ten ranking in provincial competitiveness index to increase investment from Japan.

Up to 2020, there have been 81 countries and territories investing in Hanoi inclusive of 20 principal partners. In which, Japan is currently the leading partner registering 959 projects with total investment capital of \$10.2 billion, accounting for 28.3% of total foreign investment value; the second largest partner is Singapore (\$6 billion, 16.7% of total investment value); the third largest partner is Korea (\$5.48 billion, 15.2% of total investment value). Investors from developed countries with advanced science and technology have been very limited in number: The US (\$293 million, accounting for 1.1% total registered capital); France (\$247 million, 0.9% total registered capital); The UK (\$419 million, 1.5% total registered capital).

## **2. LITERATURE REVIEW**

Concept of motivation and work motivation

### **Motivation**

It is the subjective purpose in human activities (community, collective, society) that motivates people to work to meet and satisfy the set needs. Motivation is an abstract concept and is difficult to define because firstly, it is often hidden by its true nature and for many different reasons such as: psychological factors, social views, background, and human outlook of each person. Secondly, motivation always changes over time. At each moment, people will have different needs and motivations. Therefore, an HR manager must know exactly the types of motivations and know how to modify them for each specific employee to match the standards and responsiveness of the organization (Anh et al, 2021, 2021a).

### **Work motivation**

Work motivation is defined as the desire and willingness of an individual to increase efforts towards the achievement of a certain result or goal. Personal motivation is the result of many resources operating simultaneously in the environment in which people live and work. Motivation must be associated with the job, the organization and the working environment. In the condition that other factors do not change, motivation will lead to higher productivity and work efficiency. But this also does not mean that being motivated will inevitably lead to high job performance. Overall, job performance depends on the ability, the training and development of each employee (Anh & Tien, 2019, 2019a, 2019b).

### **Creating work motivation**

Motivation is a system and management policies, measures and tips that affect employees in order to make them motivated at work. Thus, motivating employees is the responsibility and goal of the organization as it expects employees to devote their abilities, qualifications and experience to serve the development needs of all. On the contrary, employees expect to receive material and spiritual benefits, helping them find the joy in their work (Dana, 2020). The purpose of creating work motivation is to contribute to improving work efficiency for employees. Work motivation measures help stimulate employees' working ability, as well as maximize their work productivity towards the mission that is to complete the assigned work in the best way that contributes to the realization of the short-term and long-term goals set by the organization (Dana, 2020a). Motivation is the key to improving work results. People only work when they want or are motivated to work. Even when trying to excel at work, people only act because they are driven or motivated by themselves or external factors. Motivation is a skill that has and needs to be learned and is indispensable for managers if the business wants to survive and succeed. Job performance can be seen as a function of competence and work motivation. Work capacity depends on factors such as education, experience, and training. Performance improvement usually occurs slowly over a sufficiently long period of. In contrast, work motivation can improve very quickly. Because it affects the attitude and behavior of employees helping employees work more enthusiastically, have a greater sense of responsibility for work and of course that will lead to higher work efficiency and making employees more attached to the organization considering as their second family, so employees will have a sense of loyalty to the organization (Grzeszczyk & Tien, 2019; Long, 2019).

It is not only at work that people really need motivation, but even in daily life, people need motivation to live. A person without the motivation to live will not be able to survive. Natural selection is the greatest life force for human being. Not only humans but also animals and plants, in order to maintain existence, they must change to easily adapt when the living conditions change (Anh & Tien, 2018). In the economy, the state wants to attract foreign investors by creating an open investment environment. That is also one of the driving forces to attract foreign investment. In business, managers motivate employees to work harder, devote themselves, and stick with the company for a long time. The existence and development of the company depends greatly on the working efforts of the staff members, their dedication, devotion and contributions for the company. No company can survive and develop with people who are superficial, mentally depressed and bored at work. Therefore, company needs to create motivation for employees (Dinh et al, 2020).

Creating labor motivation for employees not only stimulates high efficiency working psychology for employees, but it also increases labor efficiency and business efficiency, builds a professional staff team to increase competition in the market (Minh & Tien, 2019; Tien et al, 2020, 2021).

### **Forms of motivation at work**

- Wages: In the current market economy, wages are the main economic leverage tools. Through the wages, managers can encourage employees to increase productivity, their sense of responsibility. Wages are tools that perform the function of distributing national income and of payment to employees from employers. Wages are intended to reproduce labor power through their use in exchange for necessary consumable goods and services. Wages stimulate people to participate in labor because wages are a part of income; it affects the living standards of workers.

- Bonus: Bonus is for employees whose achievements are higher than the prescribed level of each business unit or each enterprise. In addition to the effect of supplementing income for employees, it is also a means to evaluate the merit, sense of responsibility, and achievements of employees for work and business. Bonus is one of the measures to encourage employees to pay attention to production results to ensure requirements on product quality and time to complete the work. Usually in an enterprise, there are the following bonus criteria: Bonus for exceeding the production plan; Bonuses for raising the rate of high-quality products; Bonus for inventions; Periodic salary increase. Bonus form: Direct bonus; Bonus after each production and business cycle.

- Allowance: Allowance is additional to salary for position and working conditions, job complexity and living conditions. The allowance regimes being applied at present are: Extra-seniority allowance; Allowances for leadership positions; Allowances for concurrently holding leadership positions; Regional allowance; Attraction allowance; Mobile allowance; Toxic and dangerous allowances; Job responsibility allowance; Special allowances; Occupation-specific allowances. Forms of non-financial stimulation.

- Social insurance: The benefits prescribed by law here are the social insurance that companies must provide for their employees. It includes the following 5 regimes: Sickness allowance; Occupational accident and disease allowance; Pension regime; Maternity; Subsidy scheme. In addition to the welfare programs prescribed by law, in enterprises there are often some forms of voluntary benefits to encourage employees to work and stick with the company: Program health insurance, health protection program, toxic allowance, danger allowance.

- Training and developing employees: This is an activity to improve and update new knowledge for employees so that they have confidence in their own skills when working. On the other hand, when sending workers to school or training workers in some way will give them a sense of their role in the company and also show them that the company cares for them, thereby making them more attached to the company and work more actively.

- Building labor norms: Norms are the basis for calculating salary and bonus for workers and it is also a tool to properly assess the ability of workers. The setting of norms should not be too high or too low because too high will make employees find it difficult, tired and dissatisfied, and too low will make them become lazy and not fully promote their ability to work. Therefore, building norms with a scientific basis is very necessary work.

- Working conditions and environment: Working conditions and environment include specified conditions of air, humidity, noise and working tools. These factors directly support the workers. With bad conditions and environment, the job of labor protection is not guaranteed, which will reduce labor productivity, causing boredom and fatigue at work. An ideal working condition and a secure environment will be a great source of motivation for employees to be enthusiastic and secure at work.

The labor relationship: The labor relationship, also known as collective atmosphere in the company, includes: the relationship between the leader and the workers, the relationship between the workers with each other. These relationships will create a cozy environment, a harmonious and friendly atmosphere, where everyone contributes to building the company. Good people help weak people complete their work, superiors are close to subordinates, subordinates well abide by the regulations set out by superiors, making the company's activities better and more effective, and employees can reach their full potential.

### **How to create work motivation**

Employee motivation includes the following basic contents (Thoi, 2019; Rewel et al, 2020a; Tien, 2019, 2019a, 2019b, and 2019c):

- Develop and implement policies to motivate employees. The development of policies to motivate employees is essentially the creation of levers of material and mental stimulation for employees. The levers of material stimulation for employees focus on the following main areas: Building a fair salary and allowance system, ensuring high stimulation; Select reasonable reward forms to stimulate employees to strive to achieve organizational goals. The levers of mental stimulation should focus on the following directions: Creating a reasonable reward system; creating a favorable psycho-physiological working environment; Organize collective activities to create cohesion among employees; develop and organize the implementation of reasonable welfare regimes to create peace of mind for employees.

- Create a favorable working environment for employees. To create a favorable working environment, organizations need to focus on the following directions: Creating a safe working environment; Ensure necessary medical conditions; ensure a reasonable working-rest regime. To perform well the above contents, the organization needs to set up a department in charge of safety and health. When the organization's size is large enough, it is necessary to establish its own health station and safety and hygiene network within the organization.

- Create peace of mind for employees to avoid occupational risks in the future. In the work, employees can completely avoid those risks if the organization pays full social insurance, health insurance, and unemployment insurance regimes for employees. On the other hand, in order to make a difference with other organizations, to increase the employee's attachment to the organization and the positivity in their contributions, the organization may offer other risk prevention programs such as paying life insurance for employees, or policies for employees to borrow money without or with low interest when their families face difficulties.

- Create personal development of employees. In the hierarchy of needs of workers, self-actualization is a higher-order need. Content that creates personal development for employees



is the content to meet that need. To meet this, the organization needs to create an environment and favorable conditions for employees to develop through activities such as promotion and appointment; further education; skills extension; assigning challenging jobs; creating conditions to develop personal brand of employees.

Create an effective management style and communicate with employees. The issue of creating an effective management style and communicating with employees is something that organizations should do to satisfy employees' needs for esteem and social needs. Management policies and communication behaviors between managers and employees will have the effect of stimulating work motivation or demotivation of employees. An open management style built on the basis of fair and impartial treatment of all members of the organization will create a favorable working environment; employees will not be inhibited from their actions and unfair management caused. The care and respect of employees by managers gives employees the feeling that they are important people of the organization and that the organization needs them and cares about them.

### 3. METHODOLOGY

This study uses the qualitative method through an inductive analysis technique over previous national-level studies on the work motivation and creating work motivation at enterprises. Accordingly, a good number of materials will be retrieved and processed through rigorous, explicit and reproducible procedures, targeted at answering relevant research questions. A descriptive statistics technique is also applied to analyze the data and figures.

#### 3.1. Creating work motivation through financial instruments for employees

##### 3.1.1. Salary

Salary is the most important concern of employees and of FDI enterprises themselves in creating work motivation. In financial structure of FDI enterprises, total income of employees is much higher than other business areas of Hanoi, specifically:

**Table 1.1 Total income of employees in FDI enterprises**

Figures in: Billion dong

No.	Items	Year				Comparison (%)		
		2016	2017	2018	2019	17/16	18/17	19/18
1	Total income	34,894	42,162	48,622	51,839	20.8	15.3	6.6
2	Compared to other local enterprises	17.7%	17.8%	17.6%	17.9%	0.1	-0.2	0.3

*Source: Hanoi Statistical Yearbook and calculation of the authors*

The table shows that the total income of employees in FDI enterprises increases over the years, with annual average increase rate of 14.2%; Total income structure of employees in FDI enterprises grows steadily and occupies a high proportion when compared to that in state and non-state enterprise sectors.

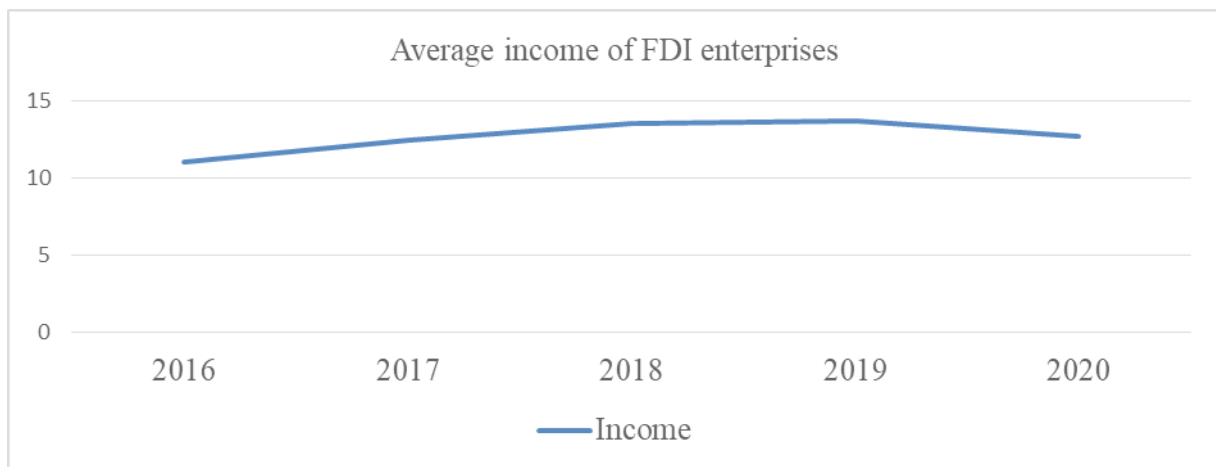
The efficiency of work motivation creation is best illustrated by monthly average income of employees in FDI enterprises.

**Table 2 Monthly average income of employees in FDI enterprises**

Figures in: 1,000 dong

No.	Sectors	Year				Comparison (%)		
		2016	2017	2018	2019	17/16	18/17	19/18
1	FDI enterprises	11,013	12,498	13,519	13,738	13.5	8.2	1.6
2	State enterprises	10,644	12,083	12,885	14,506	13.5	6.6	12.6
3	Non-state enterprises	6,631	7,880	8,896	9,255	18.8	12.9	4.0

Source: Hanoi Statistical Yearbook and calculation of the authors)



**Chart 1.1 Average income of FDI enterprises in the period 2016-2020**

It is shown that the growth of average monthly income for employees in FDI enterprises is more stable than that in the state and non-state enterprise sectors. Average monthly income of employees in FDI enterprises is higher than that of state enterprise sector in three years (2016-2018); In 2019, it remains higher than that of non-state enterprise sector; In 2020, due to the Covid-19, the average income of employees in FDI enterprises reduced to VND 12.7 million per month.

With high and stable income compared to the regional minimum income standard regulated by Vietnam General Confederation of Labor and the city authority, thus the living of employees are considerably improved in the past years.

### 3.1.2. Bonus

According to figures on work bonus, there are four groups of enterprises located in Hanoi paying Lunar New Year 2017 bonus to employees on average higher than the previous year by 2.1%. In which, FDI enterprises have the highest bonus rate at VND 205,000,000 and the lowest bonus rate belongs to the state one-member liability limited and state-owned enterprises at VND 500,000. Specifically, the Lunar New Year 2017 bonus rate of the enterprise groups is specified as following:

- The state one-member liability limited enterprises provide an average bonus of VND 3,400,000 per capital, equivalent to an increase of 1.3% compared to the previous year. In which, there is the highest rate at VND 30,000,000 and the lowest rate at VND 500,000.

- The state-owned enterprises provide an average bonus of VND 3,600,000 per capita, equivalent to an increase of 2.8% compared to the previous year. In which, there is the highest rate at VND 27,500,000 and the lowest rate at VND 500,000.

- The private enterprises, consortia and other non-state enterprises provide an average bonus of VND 3,700,000 per capita, equal to the previous year. In which, there is the highest rate at VND 30,000,000 and the lowest rate at VND 550,000.

- The FDI enterprises provide an average bonus of VND 3,800,000 per capita, equivalent to an increase of 1% compared to the previous year. In which, there is the highest rate at VND 205,000,000 and the lowest rate at VND 550,000.

*New Year 2019 bonus:* The FDI enterprises provide the highest New Year bonus rate at VND 325,000,000 and the lowest rate at VND 750,000. The average bonus of these enterprises is VND 4,950,000 per capital, equivalent to an increase of 3.1% compared to the previous year.

*Lunar Year 2019 bonus:* Employees benefit an average New Year bonus of VND 750,000 per capita. The enterprise with the highest bonus rate is VND 68,000,000 and the lowest rate is VND 320,000. Employees benefit an average lunar New Year bonus of VND 4,450,000 per capital. In which, the highest bonus rate is VND 280,000,000 and the lowest is VND 750,000.

It is evident that, FDI enterprises in Hanoi have paid extensive attention to the living of employees through their salary and bonus mechanism on occasion of traditional vacation and custom of Vietnamese.

### **3.2. Creating work motivation by means of remuneration mechanisms for employees**

A major part of FDI enterprises in Hanoi have good employment remuneration mechanisms reflected in working environment, social environment, living and social welfares, specifically:

#### **3.2.1. Natural environment.**

The issues of salary and welfare are not enough unless enterprises pay attention to the employees' working conditions. Conceiving these issues, the FDI enterprises in industrial zones have constantly focused on improving working conditions such as working safety, working hygiene, etc. It is reflected in their frequent investments in new machinery, reduction of harmful factors towards employees such as noise, dust, smoke, etc.; meal and break room, sanitation, drinking water, etc. for employees' personal needs; free garages for employees, securing their assets; provision of necessary labor protection apparatus. Annually, they organize capacity building courses on working sanitation and safety, fire prevention and protection, etc. This secure environment is good to health and helps to improve productivity.

### **3.2.2. Working environment.**

Basically, the FDI enterprises have created a harmonized working environment among employees themselves, and between them and managers. The applied measures to build a friendly working environment are: Enable employees to meet business leaders directly to show their actual needs and opinions. Some enterprises have feedback box to receive opinions from employees; they also handle seriously the complaints of employees, etc. Some pay actual attention to the living of employees and provide them with daily transport, collective dormitory, break room, etc. For Vinacad (formerly known as Yabashi Japan established and developed from 1961). Yabashi established an FDI enterprise with headquarter located in Hanoi under the name Vinacad. Vinacad operates mainly in construction, architecture, machinery, and information technology. Working conditions provided by Vinacad: Working time 8:00 to 17h00 (There are cases of working in shifts depending on the division); more than 100 days off-work in a year (changes may be applied to specific divisions) including: Sundays, holidays, Saturdays (depending on specific affiliates), new-year days, vacation days; specific leaves (marriage, maternity, funeral, childcare, sickness...)

### **3.2.3. Mental aspects**

Although the working time of employees complies with industrial style, many FDI enterprises concern about the mental issues of employees. Most FDI enterprises in the industrial zones such as Canon Inc., Yamaha Motor, etc. have conference rooms where their employees can join cultural and musical exchange activities in the event of weekends or holidays. In addition, they build sport complex for physical training, press club, etc. where business leaders, managers and employees can join.

### **3.2.4. Welfare**

In addition to encouraging and competitive salary mechanism, some enterprises annually provide two bonuses and other welfare goods for employees; employees can buy motorbikes and cars produced by company at preferential prices; pay health insurance, social insurance, unemployment insurance, maternity and sickness compensation timely and sufficiently; visit and grant supports for families with difficulties, award children with good achievements in studying and on occasion of Mid-Autumn Festival; active and effective Covid-19 safety teams within company, etc.

Multiple Japanese enterprises have good compensation mechanism for their employees. During their works, if employees are productive and well comply with regulations, they will benefit from extra bonuses and welfares relevant to their actual contributions. Panasonic Vietnam runs the employee-centered mechanism, and the management board believes that their business may not expand and succeed without human development within their organization.

Therefore, the company has created a friendly working environment where the employees are encouraged to share and stick together; they are inspired with passion in the most advanced technologies and are connected with expert worldwide; the management board compromises human resource development, enrichment of career expertise and each individual worker is ensured with a work and life harmony; the welfare mechanism ensures their employees are good in terms of personal life, finance and profession.

Rewards and bonuses in the event of holidays and New Year are extracted from the company's annual profit. This is not compulsorily regulated in the Labor Law, but it is a nice culture within the working relationship, thus most enterprises in Vietnam are doing annually. Rewards may be in money or assets or in other forms based on the working outcomes and the degree of accomplishment done by the employees in the year, such as:

*New Year bonus 2017:* For the New Year bonus 2017, the FDI enterprises provided the highest bonus rate per employee at VND 30,000,000. The second highest bonus rate provided by the state one-member liability limited enterprises with VND 20,000,000. Private companies, consortia and non-state joint stock companies provided the highest bonus rate at VND 15,000,000; state-owned enterprises provide VND 6,000,000. For the Lunar New Year 2017, FDI enterprises provide an average bonus at VND 3,800,000 per employee, equivalent to an increase of 1% compared to the previous year. Private companies, consortia and non-state joint stock companies provided an average bonus rate at VND 3,700,000 per employee, equal to the previous year. The state one-member liability limited enterprises provided an average bonus rate at VND 3,400,000 per employee, equivalent to an increase of 1.3% compared to the previous year. State-owned enterprises provided an average bonus rate at VND 3,600,000 per employee.

*Lunar New Year bonus 2017:* Due to the positive transition of socio-economic situation in Hanoi with stabilized market prices, low inflation rate, and good social security, the lunar New Year bonus rate provided by enterprises were increased by 5.5% to 8% compared to the previous year. FDI enterprises provided an average bonus rate at VND 4,600,000 per employee. The state one-member liability limited enterprises provided an average bonus rate at VND 3,700,000, equivalent to an increase of 8.8% compared to the previous year. State-owned enterprises provided an average bonus rate at VND 3,850,000 per employee, equivalent to an increase of 7% compared to the previous year. Private enterprises provided an average bonus rate at VND 3,950,000 per employee, equivalent to an increase of 5.5% compared to the previous year.

*New Year bonus 2020:* The state one-member liability limited enterprises provided an average bonus rate at VND 1,000,000 per employee. State-owned enterprises provided an average bonus rate at VND 600,000 per employee. Private enterprises provided an average bonus rate at VND 780,000 per employee. Other private enterprises provide an average bonus rate at VND 750,000 per employee.

*Lunar New Year bonus 2020:* The state one-member liability limited enterprises provided an average bonus rate at VND 3,500,000 per employee, equivalent to an increase of 5.3% compared to the previous year. State-owned enterprises provided an average bonus rate at VND 3,800,000 per employee. Private enterprises provided an average bonus rate at VND 4,200,000 per employee. Other private enterprises provide an average bonus rate at 4,450,000 per employee.

These figures show that FDI enterprises applied the bonus and welfare mechanisms on occasion of holidays better than other business organizations in Hanoi.

However, FDI enterprises in Hanoi still show some limitations.

- Many businesses provide shift meals for employees, but the quality is low in terms of nutrition for work power reproduction; food safety is sometimes not guaranteed, etc. In hot summer, there are cases that

workers are poisoned by bad foods and must have emergency treatments. Many employees do not dare to request for better foods, as a result they merely need sufficient and safe meals. The quality of shift meals for employees is a real problem, as this is the main meal during the day.

- Working time and working environment. Currently, there some enterprises applying prolonged work trials that violate the Labor Law, namely: Enterprises offer too general recruitment requirements: Workers employed must attend a three-month trial before recruitment, particularly there are enterprises require a six-month trial before recruiting accountants and office staffs with university degrees. Meanwhile, the Labor Law regulates a work trial not more than 60 days for employees with college degrees or higher.

- There are some enterprises do not sign labor contract or sign without definite provision of social insurance; they do not compensate for extra working time, provide simple and unsafe apparatus for employees; to avoid social insurance payment, there are some business owners move from work contract to service contract, consultancy contract or coordination contract for some of their frequent tasks, etc.

- There are some enterprises do not raise salary and pay at the end of the year, do not pay extra time allowance, toxic compensation, etc. Thus, it may lead to spontaneous strike that negatively affect business activities and employees' living themselves; there are enterprises do not pay the basic or minimum welfares, particularly there are one who do pay salary or avoid social insurance, health insurance, and unemployment payments - these are the most basic rights of employees pursuant to laws and regulations of labor; in terms of salary, employees' monthly incomes are pretty high at FDI enterprises in comparison with other non-state enterprises, but they are still lower than that of state-owned enterprises. Employees' salaries do not pay off their daily needs, even there are cases that employees work most of extra time but not afford their living.

- Imbalance gender structure within FDI enterprises, the women workers outnumber and there are multiple issues related to women's health are not paid attention; In addition, due to the work pressure within centralized industrial zones, the employees do not have opportunities to socialize with others after work, etc.

Beside the achieved results, the activities taken by trade unions at FDI enterprises in Hanoi are still facing various difficulties. The most difficulty for trade union officials is to protect workers because they are paid by business owners and function as part-time tasks. In recent years, there have been trade union officials are forced to resign, transferred to other positions, or even persecuted when standing up to protect the rights of workers. In addition, the educational and professional qualifications of trade union officials are not high, so they are not capable of analyzing and evaluating information related to the production and business efficiency of enterprises to negotiate with business owners on salary and bonus regimes for employees. Therefore, there have been very few collective labor agreements with provisions better than those prescribed by law.

#### **4. CONCLUSION AND IMPLICATIONS**

First, to improve the standard of living of employees, FDI enterprises need to comply strictly with laws and regulations on salary, particularly regulations on minimum salary promulgated by the State and the city authority; they should issue internal regulations on salary and bonus mechanism within organization in paper and communicate it with all employees. They need

definite and transparent regulations on salary and bonus mechanism; thus the work spirit of employees is motivated. Personal salary is confidential, but the calculation method must be clear and public, etc. On the other hand, they need to notice that salary mechanism and payment policy should be reconsidered and reevaluated to be more appropriate with new working environment and requirements. In FDI enterprises, the definite policies on salary and bonus payment will be perceived by employees to feel the equality and objectivity, thereby improving their productivity and loyalty. Payments relevant to the work capacity and title of employees as well as good benefits such as extra time bonus, holiday, birthday, marriage or funeral, or clear insurance regimes will make employees feel secure and stick to the company.

Second, corporate welfare contributes to the attraction and insurance of employee performance, building of corporate culture, discharge of corporate social responsibility. These are the fundamental factors making value and brand of enterprise in the modern market economy, improving business competitiveness and operational performance. Thus, investment in welfare is a kind of reproduction and expansion of corporate human resource; it is an investment in the core value, brand image of enterprise in the market. These are investments for stable and sustainable business development. High-level business leaders and managers will comprehend these issues to avoid short-term benefits and following long-term development goals. The corporate welfare regime depends heavily on the awareness, willingness, and attitude of employers. To improve the sustainable competitiveness in the market, businesses must pay attention to their own welfare policies. Caring employees is a measure that business managers look forward to building a sustainable enterprise. Enterprises that well implement employee welfare will create a foundation to promote internal resources for development, such as work attitude, responsibility, initiative, and dedication of employees, improve corporate efficiency and competitiveness.

Third, the facts show that when employees were off from work due to the Covid-19, they would go back to work after economic recovery, but not soon because they had to determine issues of accommodation, the study of children, etc. Employees and enterprises may go “out of tune” in the coming period of economic recovery. Social security should be considered a connecting and supporting issue. It should also be considered a measure to ensure the labor chain not disrupted. The repatriation of employees shows the necessity of expanding the social security system, especially social insurance for workers so that, when facing risks, they can still afford their living.

During the period of pandemic fighting or later, FDI enterprises should maintain their roles in preventing and mitigating the risk of disease at workplaces. The “pandemic storm” has passed; enterprises should make priority for planning to response and control pandemic for employees. When playing active role, enterprises may offer responsive plans such as remote working, timely supports, time flexibility, etc. To help employees soon return to work, it is essential to pay attention to the employment, particularly the stable and good income jobs as where there are good work policies, there are employment attraction. After the off-working period, employees will look for new jobs to earn their living enterprises with real employment demands need to announce their salary and welfare regimes in public to attract employees. One of the priorities of enterprises is to ensure a safe workplace for employees.

To make employees feel secure at work, in addition to good and sufficient working facilities, enterprises need to provide collective canteens and empower the trade unions to monitor daily food quality; provide supports for employees to work with the “three in-places”; for quarantined employees, in addition to their regular minimum payment, enterprises should provide them free foods. For employees do not register “three in-places”, enterprises should enlist and provide supports according to regulations of the State, city authority and enterprises themselves. FDI enterprises should contact management units of industrial zones, export processing zones in the city, area health services for employee vaccination.

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# **AN ANALYSIS OF BOARD OF DIRECTORS CHARACTERISTICS AND FIRM VALUE IN THE VIETNAMESE STOCK EXCHANGES**

**Nguyen Van Chien<sup>1</sup>**

**Abstract:** *The Board of Directors is considered as the heart of the enterprise. Enterprises with a strong board of directors often have many advantages in decision-making in corporate governance, thereby helping businesses seize business opportunities and enhance corporate value. The objective of this study is to evaluate the characteristics of the board of directors on corporate value by a study on 90 companies listed on the Vietnam Stock Exchange during the period from 2014 to 2021. Research confirms that: board size has a positive effect on firm value. Moreover, the more profitable in the business is consistent with the greater the business value. Other factors that also have a positive impact on corporate value are: firm size, liquidity and growth. As for capital structure, this factor has no impact on firm value.*

**Keywords:** *enterprise, board of directors, value, profit.*

## **1. INTRODUCTION**

Enterprises play an important role in contributing to economic development in each locality in particular and the country in general. The growth of the economy of each country cannot be without the contribution of the business community. Enterprises have the ability to take on roles such as creating jobs, improving labor productivity, contributing to the national budget, and economic growth and development (Merendino and Melville's, 2019).

In the process of development, enterprises always diversify capital mobilization channels, especially large enterprises often prioritize long-term capital mobilization on the stock market. Through the issue of shares, enterprises can invite more shareholders into the company to contribute capital in order to expand its business, or businesses can also mobilize bonds on the Stock Exchanges in order to finance for long-term investment projects. It can be said that the stock market is a relatively important channel in providing capital for businesses and the economy (Merendino and Melville, 2019).

The activities of joint stock companies are often influenced by the board of directors (Khaoula & Moez, 2019; Zhu et al., 2016). When the board of directors can perform its role through appropriate management decisions, it will improve the performance of the business and enhance the value of the enterprise. Research on the board of directors and the impact on firm value has

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been carried out by a number of previous studies. Studies have shown that the board of directors has a positive effect on corporate value, that is, a business with high board quality is positively associated with the higher the value of the business (Khaoula & Moez, 2019; Zhu et al., 2016; Oh et al., 2021).

This study is divided into 5 main parts. In addition to the problem statement, part 2 discusses previous studies, part 3 discusses data sources and research methods. In sections 4 and 5, the study results and conclusions are discussed.

## **2. LITERATURE REVIEW**

Research on the characteristics of the board of directors on corporate value has been carried out by a number of foreign authors. Through the studies, most of the empirical evidence shows that there is a positive relationship between board quality and corporate value. It can be said that when the quality of the board is high, the enterprise is likely to increase the value of the enterprise, and vice versa, when the quality of the board is low, the enterprise is unlikely to improve the value of the enterprise. The evidence is suggested by Merendino and Melville's (2019) study in firms in Italy, Khaoula & Moez (2019) in 105 listed companies in Europe, Zhu et al. (2016) in China and a few other studies.

Merendino and Melville (2019) on a study in Italian businesses, the authors analyzed a dynamic generalized method of moments between 2003 and 2015, and assuming that if the director is selected from the minor shareholders, it is evident that it has no effect on business performance. In addition, independent directors can improve business performance but this relationship is non-linear. Furthermore, board size has a positive effect on business performance, especially in small firms. Thereby, it can be seen that the characteristics of the board of directors have a certain influence on business performance in the enterprise.

Research by Khaoula & Moez (2019) in 105 listed companies in Europe between 2005 and 2012, the study found that there is a positive relationship between tax planning and corporate value. In the context of the interactive effects of tax planning and board characteristics, such as board independence, diversity, and CEO's dual function having negative effects on corporate value, through which the author believed that the sensitivity of the board of directors in the implementation of tax policy at the company, and adversely affects the value of the enterprise.

Another study in China to assess board hierarchy, director independence and corporate value, Zhu et al. (2016) argued that the hierarchy of individual board members is unconventional in most countries. However, the hierarchy of the board of directors can be maintained in China. Research shows that when the independent director has a higher rank, there is a positive impact on the value of the business. When independent directors have a higher rank, they often vote against management and that has a negative effect on lower profits. Thereby, delegating to independent directors has the ability to improve corporate value.

Research by Oh et al. (2021) cross-listing has the potential to help enterprises attract higher quality foreign independent directors, thereby helping enterprises to improve the quality of the board of directors. Through research, Oh et al. (2021) argued that the leadership of foreign high-

quality human resources has a positive impact on corporate value, which can be explained that foreign leaders have the ability to reconcile relationships among members of board of directors and thus make better governance decisions, while at the same time they are less influenced by personal relationships. Therefore, the study highlighted the recruitment of high-quality foreign human resources in order to improve the quality of the board of directors and increase the efficiency of the enterprise. Similarly, assessing the relationship between independent director disagreement and corporate value, Choi et al. (2021) argued that independent directors' discussion before corporate decisions has the potential to improve business performance and corporate value. Through this mechanism, the author proposed to further improve communication and discussion with independent directors in order to maintain the company's growth and increase corporate value.

A number of other studies also suggested that there are a number of other factors that affect business performance, and thereby affect business value. For example, the study of Saif-Alyousfi et al. (2020) supported the pecking order theory and the trade-off theory in capital use in enterprises. Pham Thi Dieu Linh (2017) said that business performance has an impact on capital structure, because the more efficient the company as well as the higher the risk tolerance is consistent with the safer the capital structure choice. Bui Van Thuy (2021) believed that a firm with a higher efficiency has the ability of choosing its capital structure in favor of owners.

### **3. DATA SOURCE**

#### **3.1. Data source**

In this study, the author uses data of 90 typical companies listed on the Stock Exchange. Data collected from 2014 to the end of 2021, all data are collected from annual audit reports. The companies selected in this study are those with a sufficiently long listing period and continuous business operations during the research period.

#### **3.2. Research Methods**

In this study, the author used regression analysis of conventional panel data. After performing regression through methods such as pooled ordinary least squares, fixed effects method and random effects method, the study evaluates the defects of the regression model. The defects often occur as heteroskedasticity or autocorrelation. If a defect occurs, the research will continue to correct the defects. From there, the study will choose the best regression model.

Based on previous studies, the authors argue that the board of directors has an influence on the performance of the company and ultimately affects the value of the firm. The study on the impact of board characteristics on firm value was carried out by multivariate regression estimation, based on previous studies by Khaoula & Moez (2019), Zhu et al. (2016), Choi et al. (2021), the proposed regression equation is as follows:

$$VALUE = \beta_0 + \beta_1 PROFIT + \beta_2 SIZE + \beta_3 LEV + \beta_4 LIQ + \beta_5 GROWTH + \mu$$

**Table 1. Describing variables**

Variable	Abbreviation	Previous studies
<b>Dependent variables</b>		
Firm value	VALUE	Khaoula & Moez (2019), Zhu et al. (2016), Choi et al. (2021)
<b>Independent variables</b>		
Profitability of firm	PROFIT	Akhmadi Januarsi (2021), Hirdinis (2019), Jihadi et al. (2021)
Firm size	SIZE	Hirdinis (2019)
Capital structure	LEV	Saif-Alyousfi et al. (2020), Hirdinis (2019), Jihadi et al. (2021)
Liquidity	LIQ	Jihadi et al. (2021)
The growth of firm	GROWTH	Hirdinis (2019)

*Source: Author's compilation*

To measure the profitability of enterprises, this study suggests that ROA can be used as mentioned in previous studies by Khaoula & Moez (2019), Zhu et al. (2016), Choi et al. (2021), so the regression equation is written as follows:

$$VALUE = \beta_0 + \beta_1 ROA + \beta_2 SIZE + \beta_3 LEV + \beta_4 LIQ + \beta_5 GROWTH + \mu$$

## 4. RESEARCH RESULTS

### 4.1. Descriptive statistics

**Table 2. Descriptive statistics of research variables**

Variable	Obs	Mean	Std.	Dev.	Min
Value	705	11.49375	.7028742	9.502876	13.23893
ROA	720	.0560359	.1784628	-3.295714	1.084744
BoardSize	720	6.088889	1.540511	3	11
SIZE	720	11.81256	.6246501	9.848039	13.47051
Lev	720	.5114263	.5428706	0	1
Liq	720	4.683891	59.38734	-23.56412	1590.118
Growth	720	.0212511	.7959213	-6.786536	6.886068

*Source: Stata 15*

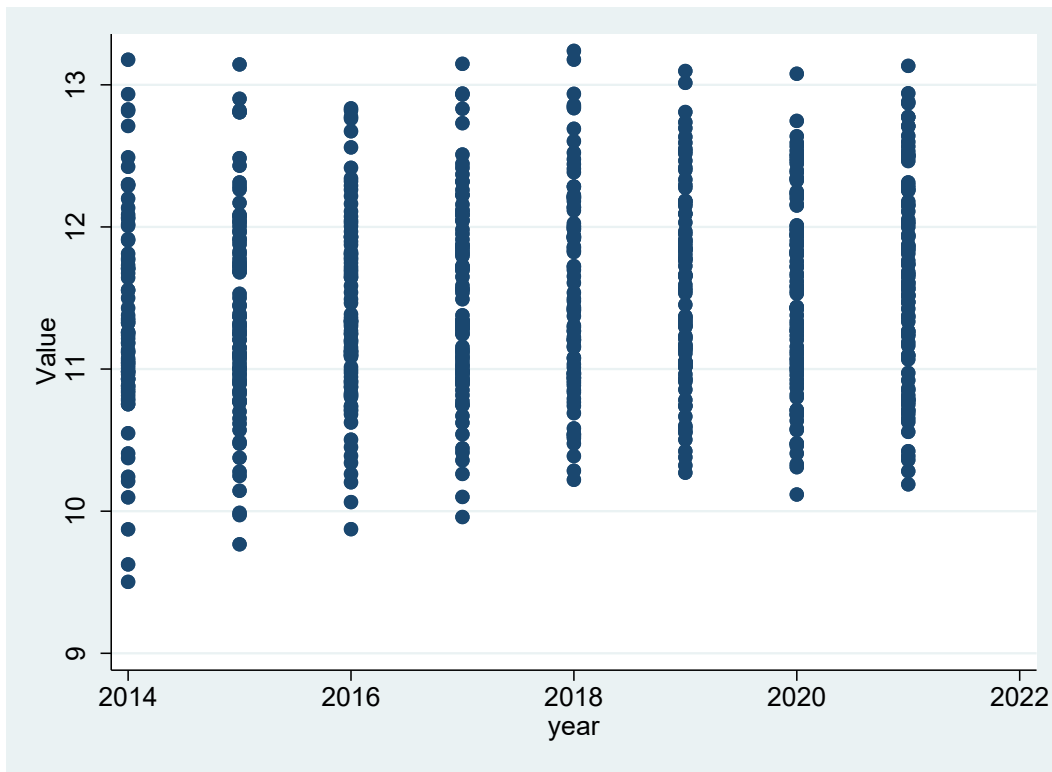


Figure 1. Firm value (2014 – 2021)

Source: Stata 15

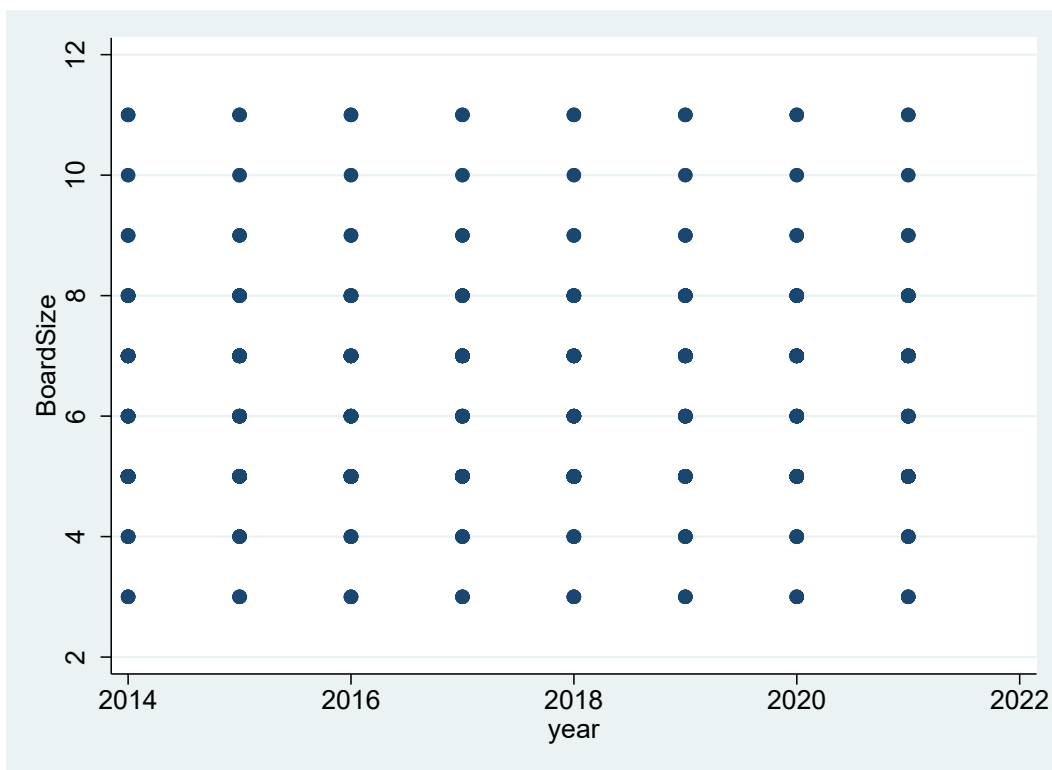


Figure 2. Board Size (2014 – 2021)

Source: Stata 15

Table 2 presents the results of descriptive statistics of the variables. Some main results in the sample can be seen as follows: the business efficiency of the enterprise reached the average level of 5.60% (according to ROA). Most firms raise equity in capital structure, accounting for 48.86%, compared with 51.14% financed with debt. The overall liquidity of the sample is relatively good, but there are still some companies that may not be able to guarantee liquidity in the short term. Regarding the characteristics of the board of directors, joint stock companies have a board size ranging from 3 to 11 members, of which the average level is 6.08 members, thereby showing the number of board members in the Vietnam Stock Exchange is a few. In addition, Figure 1 shows that the enterprise value of listed firms in the stock exchange has been on an upward trend, thereby reflecting the growth of Vietnamese enterprises in recent times. However, board characteristics do not appear to have changed (see Figure 2).

#### 4.2. Correlation Matrix and VIF

**Table 3. Correlation matrix between variables**

Item	Value	ROA	BoardSize	SIZE	Lev	Liq	Growth
Value	1.0000						
ROA	0.280	1.0000					
BoardSize	0.5031	0.0595	1.000				
SIZE	0.8348	0.1541	0.5557	1.000			
Lev	-0.1247	-0.530	0.0787	-0.0352	1.0000		
Liq	-0.0180	0.0065	-0.061	-0.0635	-0.0446	1.0000	
Growth	0.2521	0.1775	0.1467	0.2126	0.0038	-0.0260	1.0000

Source: Stata 15

**Table 4. Multicollinearity test according to VIF**

Variable	VIF	1/VIF
SIZE	1.51	0.661969
ROA	1.48	0.676004
BoardSize	1.47	0.679709
Lev	1.43	0.697431
Growth	1.09	0.921476
Liq	1.01	0.992937
Mean VIF	1.33	

Source: Stata 15

The correlation matrix of Table 3 shows that all variables have a low correlation relationship, so the possibility of multicollinearity is low, and the study is able to eliminate this defect when performing the regression. Moreover, the variance inflation factor has a value of less than 10, the model is considered unlikely to have multicollinearity. According to the results of Table 4, the average VIF coefficient is 1.33 and less than 10, so there is no multicollinearity in the estimated model.

### 4.3. Regression results and results discussion

**Table 5. Regression results – dependent variable VALUE**

Variable	Regression results			
	OLS	FEM	REM	FGLS
PROFIT	0.5309*** (0.000)	0.0409 (0.609)	0.2156*** (0.001)	0.5309*** (0.000)
BOARDSIZE	0.0297*** (0.007)	0.1089 (0.190)	0.0652*** (0.001)	0.0297*** (0.006)
SIZE	0.8625*** (0.000)	0.7435*** (0.000)	0.7529*** (0.000)	0.8625*** (0.000)
LEV	-0.0416 (0.180)	-0.1552*** (0.001)	-0.0254 (0.353)	-0.0416 (0.177)
LIQ	0.0004* (0.087)	0.0003** (0.029)	0.0003** (0.023)	0.0004* (0.085)
GROWTH	0.0547*** (0.006)	-0.0052 (0.724)	0.0159 (0.253)	0.0547*** (0.005)
_Cons	1.1079*** (0.000)	2.1197*** (0.002)	2.2016*** (0.000)	1.1079*** (0.000)
R-squared	0.7280	0.6913	0.7135	
Adj R-squared	0.7256			
F test	F test = 16.42 Prob > F = 0.0000			
Breusch and Pagan Lagrangian multiplier test for random effects			chibar2(01) = 879.75 Prob > chibar2 = 0.000	
Hausman test		chi2(6) = (b-B)'[(V_b-V_B)^(-1)](b-B) = 39.75 Prob>chi2 = 0.0000		

Note: \*, \*\*, \*\*\* with significance level 10%, 5% 1%. Values in brackets are p-value

Source: Stata 15

Comparing Pooled OLS and REM models, Breusch and Pagan Lagrangian multiplier test for random effects should be performed. According to the results, the coefficient Pvalue = 0.000 and less than 5%, so it can be confirmed that REM is more suitable than Pooled OLS. According to the F test, the coefficient Pvalue = 0.000 and less than 5%, so it can be confirmed that FEM is more suitable than Pooled OLS. According to Hausman test, it can be confirmed that FEM is better.

Table 6 depicts autocorrelation and heteroskedasticity, showing that the model has autocorrelation and heteroskedasticity.

**Table 6. Diagnostics test**

Autocorrelation	Wooldridge test for autocorrelation in panel data H0: no first-order autocorrelation F( 1, 89) = 70.114; Prob > F = 0.0000
Heteroskedasticity	Modified Wald test for groupwise heteroskedasticity in fixed effect regression model H0: $\sigma(i)^2 = \sigma^2$ for all i $\chi^2(104) = 89996.84$ ; Prob > $\chi^2 = 0.0000$

Table 5 presents the regression results, some of the main results are explained as follows:

First, board characteristics have a positive effect on firm value. Specifically, when the number of members of the board of directors increases, the value of the business increases. It shows that, when the board of directors is increased, the business has more accurate decisions about the company's operations, thereby increasing the company's profits. Indeed, in the process of governance, companies that receive more discussions from knowledgeable people about the company, the more effective management decisions become, and thus improve corporate value. In companies with small-sized board of directors, it is evident that the management decision may not receive enough criticism from other members, so the management efficiency is not high.

The study also found that the more profitable the company is consistent with the higher the corporate value. This can be explained that a company with a good profit, it is evident that that company has the ability to have retained earnings, whereby the company's equity increases and thus the value of the enterprise increases. On the other hand, a company with high profits is often reflected in the share's price, the share's price will increase and lead to increase its market capitalization. In addition, businesses with high profits are better able to make investments to expand future projects than other businesses, thereby creating confidence for investors about the growth of the business in the future.

The study also shows that the larger the enterprise is positively associated with the greater the enterprise value. Indeed, large-scale enterprises have many advantages in terms of production and cost management. In microeconomics, it is assumed that the larger the production is consistent with the cheaper the cost of the production and therefore the product is more competitive. Large enterprises are able to carry out massive production, thus better cost management capabilities, and are able to generate better profits and ultimately improve the value of the business.

The study also confirms that a company's liquidity has a positive impact on firm value. It is important to note that enterprises that maintain higher liquidity are consistent with higher enterprise values, conversely, enterprises that cannot ensure liquidity are able to have lower enterprise values. Furthermore, a business with its growth rate is likely to have better business performance and ultimately greater corporate value.

## 5. CONCLUSIONS

Enterprises are increasingly contributing to the economic development of the country. The development of a business is often associated with an increase in the shares' price, and then an



increase in the value of the business, and the business maintains the pace of development. Using a sample data of 90 companies listed on the Vietnam Stock Exchange over a period of 8 years, the study confirms that the characteristics of the board of directors have a positive impact on firm value. In addition, factors such as corporate profitability, business size, liquidity and growth also have a positive impact on corporate value.

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# **SOME RECOMMENDATIONS FOR THE IMPLEMENTATION OF DIGITAL CUSTOM AND SMART CUSTOM IN VIETNAM - THE VIEW FROM THE BUSINESSES**

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**Abstract:** *Over the years, Vietnam Customs has successfully implemented E-Customs procedure. This is considered the key to a quick clearance process, creating ventilation for Customs procedure and revolutionizes methods of modern customs management. E-customs procedures not only fundamentally renew the method of customs management in a modern way, in accordance with international customs practices, but also significantly promote the development of the foreign economic relations, promote import and export and attract foreign investments. However, the process of implementing E-customs procedures still has limitations such as: automation is not high-level; not yet applying many achievements of the paperless digital platform; administrative procedures have not kept up with international trends ... This requires Customs to develop E-customs, smart customs in order to make Vietnam Customs a modern organization with high level of automation, applying new achievements of science and technology on paperless digital platforms, ensuring transparency, fairness, effectiveness and efficiency; having the ability of forecasting, adapting with fluctuations of international trade and requirements for management of customs authorities; in accordance with international standards, serving people and businesses. When implementing the digital and smart customs model, businesses believe that this model will make the operation of Customs strongly develop, make it easier for business, meet current customs standards and is in line with the digital government program. To effectively implement this model, from the perspective of businesses, the authors have given a number of recommendations to continue perfecting the model of digital and smart customs.*

*Keyword: Digital customs, smart customs, business,...*

According to World Customs Organization (WCO), digital customs towards smart customs means using digital systems to collect and protect customs duties, to control the flow of goods, people, means of transport and money, also to prevent cross-border trade from crime, including international terrorism.

## **1. CHARACTERISTICS OF DIGITAL AND SMART CUSTOMS MODEL**

- Smart border management
- Chain management and digital ecosystem

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- Providing optimal service
- Intelligent connection and processing
- Transparency, fairness, consistency

## **2. BENEFITS OF DIGITAL AND SMART CUSTOMS**

Implementing digital and smart customs brings many benefits to customs authorities, business community and related state management agencies such as:

- Reducing the direct participation of customs officers, simplifying administrative procedures, reducing waiting time at the border, carrying out the distribution of goods, passengers and vehicles, authorizing inspection at the border gate. This is also the chain management and the digital ecosystem, implementing an integrated supply chain management model as guided by the security framework and trade facilitation (SAFE) of the World Customs Organization.

- The administrative procedures of the relevant ministries such as: licensing, specialized inspection, documents belonging to customs dossiers will be standardized, digitized data and carried out entirely in an electronic, paperless environment, ensuring high-level information security.

- Supplying optimal services, setting up friendly digital service environment, easily approaching, having ability to meet the needs of using the service anytime, anywhere and by all means, having ability to respond to changes in regulations and policies, ensuring seamless and unbroken trade. It is also a smart connection and processing, applying new achievements in technology such as: Internet of Things, Blockchain, Artificial Intelligence, Bigdata, Business Intelligence, iCloud, Mobility,...ensuring customs authorities in automatically analyzing and processing information; mastering the technology, adapting in time to changes in the operating environment. Ready to integrate, connect and share information with ministries, sectors and enterprises in the country to serve the management.

Reforming the administrative procedures towards transparency, simplicity, consistency; in accordance with standards and recommendations of the World Customs Organization such as: The International Convention on the simplification and harmonization of Customs procedures; The standard framework for global trade security and facilitation... ensuring goods to be cleared, released quickly, and reducing costs for businesses.

## **3. SOME RECOMMENDATIONS TO CONTINUE PERFECTING THE DIGITAL AND SMART CUSTOMS MODEL - THE VIEW FROM THE BUSINESSES**

Digital and smart customs model will allow enterprises to declare customs procedures anytime, anywhere, on all means, reduce the time of customs clearance of goods, reduce logistics costs; use free declaration software provided by customs offices; only declare goods information once to carry out many administrative procedures through the national one-stop system; easily follow the processing of state management agencies in the supply chain... From the perspective of the businesses, the authors have given a number of recommendations to perfect the model of digital and smart customs as follows:

### ***Customs-business partnership***

In order to strengthen cooperation between customs authorities and related parties, especially customs-enterprise partners, it is more and more necessary to establish regular and periodic channels of dialogue between border customs and enterprises, organize an annual dialogue forum between each customs department, sub-department and enterprises; improve the efficiency of using the problem solving hotline for businesses.

Continuing to get periodic feedbacks from enterprises on administrative procedures for import and export is also an important job. In fact, the cooperation activities of surveying enterprises between the General Department of Customs - Ministry of Finance - Department of Commerce and Industry of Vietnam from 2012 to 2021 have helped to improve the quality of construction and implement legal policies and reform administrative procedures for import and export.

In the implementation of the objectives of developing customs-enterprise partnerships, it is necessary to extensively implement the content “propagation and training for the business community on legal policies and customs procedures to improve law compliance capacity”.

### ***Administrative procedures on VNSW***

Promoting the implementation of administrative procedures on the national one-stop mechanism. Currently, the implementation of administrative procedures on the national one-stop mechanism is relatively slow, mainly because the Ministry of Finance has to connect with many ministries and sectors at a time, it is difficult to ensure the expected progress. In terms of the Ministry of Industry and Trade, its procedures are electronic and ready to be put on a national one-stop, but must wait for the connection from the General Department of Customs. The fix of system errors, the process of processing records, updating, editing the input form and the output license of a national one-stop are still slow, businesses often have errors when declaring at the address: <http://vnsw.gov.vn>, the support department often responds to enterprises that this faulty belongs to ministries and sectors. In fact, Ministries and sectors cannot intervene in declaration errors on the national one-stop, which makes it difficult for businesses to use the service.

Besides, The national one-stop mechanism and the national public service portal are not fully connected to each other due to different connection models. During the past time, the exchange of data between the ASEAN one-stop system and the national one-stop system has also frequently encountered problems and is not stable, many times the one-stop system of other countries ( Malaysia, Indonesia, v.v...) sends exchange data, however, the national one-stop system has no response so they has had to use the form of email notifications asking for confirmation, which is more time-consuming, reducing the effectiveness of one-stop systems.

### ***Enterprise information security***

Making a plan and implementing many activities related to the implementation of digital and smart customs, such as strengthening declaration, system inspection, or data link between priority enterprises and customs systems. Along with strengthening customs development, customs offices need to strengthen measures to ensure information security on the customs declaration system. The security of business information is very important because the information declared on the customs system or data connection information with the relevant management agency are highly confidential information of the businesses.

### *Cooperation and exchange relations*

Strengthening the application of digital technology, building a database of interconnection to share, exchange and regularly update information on import and export policies, customs policy, trade relations, import and export data, goods between customs offices and specialized management ministries, meet the requirements to update the import and export situation and the state management policy of the enterprise as well as management and administration requirements of the Government and ministries and sectors.

Strengthening cooperation and dialogue between customs authorities and enterprises in order to enhance information, promote exchanges and understanding between the two sides. Continuing to improve the level of satisfaction of enterprises for the implementation of administrative procedures in the field of customs.

Coordinating with the bank in controlling customs declarations, as this is a key document to determine the value of goods imported in practice. Therefore, credit institutions need to check, review to ensure that payment transactions do not exceed the value of goods on customs declarations. However, the mechanism for sharing information related to payment transactions for the value of goods on electronic customs declarations has not been finalized so there is still the status that a customs declaration has been used for payment at many banks, making difficulty in controlling the actual value of payments and money transfers.

Research solutions that allow commercial banks to look up customs declaration information, support commercial banks in controlling import and export payment dossiers and documents and limit fraud risks.

Actively coordinating with international organizations to ensure supply chain safety and prevent illegal trade transactions.

National one-stop mechanism and ASEAN one-stop mechanism need to develop an information technology system..., share information between customs offices and functional agencies of ministries, industries and units managing border gates and immigration control and the parties involved...consisting of Eurasian Economic Union, Korea, New Zealand...

### *Intellectual property*

Vietnam Customs Authorities should work closely with customs authorities of other countries to ensure if there are counterfeit trademarks, in violation of intellectual property rights, overseas goods owners must be sanctioned for administrative violations in accordance with Vietnamese law or local laws. This avoids only shipping enterprises in Vietnam being sanctioned for administrative violations but foreign shippers are not responsible for counterfeit trademarks, and infringement of intellectual property rights. Therefore, it is necessary to build a cooperation mechanism between Vietnamese customs authorities and foreign customs authorities in handling foreign goods owners related to trademark tampering, and intellectual property rights violations for exports and imports.

### *Specialized inspection*

Currently, Ministries and industries have been carrying out the socialization of experimental and certification activities, thereby assigned to many organizations to carry out inspection of imported

goods. Therefore, the regulation of customs authorities as the only focal point for carrying out specialized inspections is inconsistent with decision 38/QĐ-TTg, January, 12th, 2021, regulations on customs offices as focal points, specialized inspections are widely socialized, specifically section 2a, decision 38/QĐ-TTg regulations “creating the environment and necessary conditions for the socialization of quality inspection and food safety inspection activities”. This activity will waste the resources of society, increase the burden on the State budget, causing risks such as:

- The risk of clogging the procedures due to only 1 customs inspection agency will easily cause congestion, because they have to work instead of more than 50 food inspection units of the Ministry of Health, Ministry of Industry and Trade, Ministry of Agriculture and Rural Development and instead of many agencies inspecting other goods of other industries.

- The risk of exclusivity easily leads to authoritativeness, corporate corruption, and the alienation of cadres and civil servants.

- Causing a huge waste of people and machinery which the State has invested in the state inspection agencies of these specialized ministries will be redundant, Meanwhile, the State has to invest heavily in the Customs sector in new personnel, machinery and equipment to build customs inspection agencies across the country. Converting resources from other ministries is also not simple and does not meet the requirements of socialization.

#### *Risk classification system*

In the current Customs Risk Classification System, the assessment of violations of the law is mainly based on the criteria of the number of fines and the number of fines violated in 1 year without specifying the criteria to determine whether the violation is serious or not, leading to:

- Enterprises have minor violations of administrative records such as late submission of declarations, typos, and different English and Vietnamese names, but this does not affect the amount of tax payable or the nature of the goods, which are still classified into the red stream for quality inspection as in the following cases:

In case of typing error between the goods label on the container compared to the name on the Certificate of Circulation, or the Test Paper is still considered by customs to be smuggled, imported goods are not true between reality and documents.

In case the drug name on the Certificate of Circulation is Vietnamese, customs believes that it is not the same as the drug name on the drug box (English) so they penalize because they believe that the import of goods is not true as documents.

In case the business is late to submit some types of documents due to the supplier's lack of submission, or a typo in the declaration does not affect the amount of tax payable but is still considered a violation and assigned to the red channel.

- The lack of specific criteria, leads to a lot of goods being divided into the red stream and having to be checked in terms of both records and quality for prestigious large enterprises, although they only fined for non-serious violations of administrative records, resulting in unnecessary congestion and cost last year. Therefore, the clear regulation about whether the violation is serious or not will avoid inappropriate risk management.

- In terms of the frequency of violations according to each severity, medium, light (The business has a small mistake/1000 shipment/year also classified as a full-year enterprise that only imports 1 shipment but the error is 1/1 of the shipment). Therefore, the construction of databases for the analysis and evaluation of law violations of organizations and individuals, according to the following specific criteria:

Distinguish between the levels of violations according to light, medium, and serious, not only based on the fine but also the nature of the violation affecting the amount of tax payable or the nature of the goods (quantity, type, quality). The frequency of violations stays at a high rate ( $>1/25$ ), medium ( $<1/25 >1/50$ ), or low ( $<1/50$ ).

Violation of quantity, type, quality, or dossiers but does not affect the amount of tax payable or the nature of the goods, to classify risks and distribute appropriate test flows, as well as warning of new violation trends that support information gathering, investigation, and timely detection of violations.

- Develop specific criteria to assess the extent of violations (light, medium, serious) should be based on whether such violations bring illegal benefits to the business (enjoy lower taxes by declaring a decrease in the number and error of the code despite knowing the right code, the wrong type...). If so, depending on the value of the violation to rank heavy or medium. If the error is not only due to a typo, or due to the language, it should not be counted as a violation that needs to be managed risk. Such violations are objective (accidental) or subjective (intentional), if intentional, they must be classified as aggravating.

#### Enhanced customs integrity

Through the fact of carrying out customs procedures of enterprises at the customs offices, there are still many phenomena of customs officials and civil servants interfering, causing difficulties in the customs clearance process of the enterprise that is a matter of unofficial costs. This problem has gradually decreased over time thanks to the continuous regular directions of the Ministry of Finance and the General Department of Customs. However, these phenomena still exist, causing stress to the import and export business community and affecting society's trust in the industry. Therefore, the addition of these assessments of these restrictions in order to provide solutions in the coming time of the Customs sector is very necessary.

Currently, customs laws are almost one-sided. If the enterprise does wrong, it will be punished according to the Decree on the handling of administrative and even criminal violations. But if customs officials and civil servants do not comply with the provisions of law (for example, requiring documents not included in the regulations, delays in procedures without good reason), the sanctions are not specific to handle, except for the very general provisions on what civil servants must not do in accordance with the Civil Servants Law. However, there is no specific type of violation and specific form of sanction for the violator. At that time, the business did not know who to call but put it in court, most businesses did not dare because waiting for the court to finish it took several years, and maybe the business had to close then. Therefore, if there are clear regulations on what customs officers and civil servants must not do, recommended sanctions if violated, and forced to compensate for damages caused by violations, it will improve the integrity of customs officers and civil servants.

Clearly develop compensation rules. In cases, cadres and civil servants do not comply with the provisions of law leading to damage to enterprises but the company has concrete evidence to prove it (for example, warehousing due to delays in customs clearance due to requirements not included in the provisions of law), enterprises have the right to request customs offices, in addition to the punishment as prescribed, to issue decisions to force officials who do wrong to be liable for compensation for damages to enterprises.

#### *Customs operations*

Currently, the instructions and responses from customs authorities for dossiers of predetermined HS code, value, and origin of goods before importing the first shipment are still slow, and unclear, leading to enterprises not immediately obtaining the code, customs value, or origin when importing goods to Vietnam.

Therefore, customs authorities need to improve the process, procedures, manpower, and means for the identification of code HS, customs value, or origin of goods before importation is carried out more effectively in practice.

The classification of goods codes but no consensus, in many cases a commodity has two different HS codes between customs declarations. The cause of this existence is due to the limitation of the automatic support feature of the information technology system, when not promptly alerting customs officials about incorrect declaration codes on customs declarations. Therefore, it is necessary to provide explanations on the application of information technology for the decisions on the classification of goods codes to become uniform among customs authorities, thereby early detection of errors in declaring inappropriate codes of enterprises. Also, it does not affect the determination of the origin of goods according to the criteria of changing the code of the units granting certificates of origin as well as minimizing the collection due to the HS code change causing a lot of frustration for businesses. It is necessary to limit the inadequacies in the classification of goods codes in order to provide effective solutions when implementing the digital customs model, and smart customs model in the Customs Development Strategy for the period of 2021-2030.

The actual inspection of goods by manual method (by customs officials) or outdated inspection equipment will lead to prolonged customs inspection time causing costs for the business. Therefore, customs authorities need to apply more methods of actual inspection of goods by modern means and equipment, modern machinery equipment to shorten the actual inspection time of goods.

Currently, the Ministry of Information and Communications is developing a postal infrastructure development strategy for the year 2025 and orientation to the year 2050, in particular, planning national and regional postal centers to develop postal infrastructure to become an essential infrastructure of the country and of the digital economy in e-commerce. To carry out customs procedures quickly and conveniently to open the flow of e-commerce, the facilitation of imports and exports through the postal sector is very necessary. So, the customs sector needs to connect and exchange with the information and communication management agency, to ensure the speed and facilitation of e-commerce goods on import and export procedures at air, road, sea, and rail borders and at bonded warehouses in these centers.



### *Human resources*

In order to implement digital customs and smart customs, the recruitment mechanism is public and transparent, human resource management mechanism based on capacity, and job position ... is necessary. The Customs sector needs to develop specific solutions to control the compliance with the law of customs officers and civil servants in order to minimize the risk of abuse of power, and interference with customs declarants and enterprises.

When building a mechanism to control compliance with the law of customs officers and civil servants, this mechanism is equivalent to the internal control mechanism in the enterprise. Promoting the implementation of job placement descriptions to improve internal control mechanisms in customs offices.

### *International commitments*

Vietnam has joined many international commitments related to customs and international trade facilitation. Some of the important international commitments include the Trade Facilitation Agreement (TFA) of WTO, the customs contents in the FTA (especially CPTPP, EVFTA-UKVFTA and RCEP), and agreements on administrative assistance in the field of customs. So far, although the majority of these commitments are being implemented in practice by Vietnam, there are still some groups that have not been implemented. Of course, Vietnam has the right to reserve the time limit and scope of implementation of these remaining commitments. However, from the perspective of the internal needs of the economy itself and businesses, the sooner it is implemented, the more the business benefits. Therefore, full implementation in the substantive and inclusive manner of all these commitments is important and necessary for the propagation and support of enterprises when Vietnam fully implements these commitments. Implementing the model of digital customs, and smart customs to create transparency and convenience between customs offices and enterprises, the application of information technology to the state management activities of customs will be one of the factors to help enterprises clear goods quickly, increasing competitiveness in the market has many complicated developments as today.

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# IMPACT OF FREE-FLOAT ON THE LIQUIDITY OF STOCK LISTED ON THE VIETNAM'S STOCK MARKET

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**Abstract:** *The study clarifies the effect of Free-float on the liquidity of stock of joint stock companies listed on the Vietnam's stock market. The data was collected from all of companies listed on two Vietnamese stock exchanges for period of 2014-2019. We use illiquidity measures of Amihud (2002)'s ratio and Liu (2006)'s LMx which measure as the illiquidity of stock listed on VietNam stock market. The same results of both measures show that Free-float has a positive impact on stock liquidity. By using the Feasible generalized least square (FGLS) method, the study provides empirical evidences about the relationship between Free-float and stock's liquidity in developing markets.*

**Keywords:** *liquidity of stock, ownership structure, Free-float*

## 1. INTRODUCTION

Liquidity is an important function of capital markets. Stock liquidity is understood as the ability to trade large volumes of shares at low cost and without affecting the stock price (Amihud, 2002). Demsetz (1968) indicated that transaction costs are incurred naturally when trading are performed. A fee for trading stock that can be executed immediately. That is the cost of liquidity. Liquidity costs arise from the relationship between bid-ask spread and stock holding costs, and also from information asymmetry between internal shareholders and external shareholders. Kyle (1985) said that, the stock's liquidity comes from information asymmetry among investors and the risk from increased information asymmetry reduces the liquidity of stocks. Lawrence (1990) consider liquidity as a multidimensional concept and liquidity characteristics of stocks are shown through attributes including: width, depth, time and resilience of stocks after shocks.

Stock liquidity is affected by many factors, of which the ownership structure of listed companies is an important factor. Holmström and Tirole (1993) argues that ownership structure has a strong impact on stock liquidity and is the most important factor on stock liquidity. According to the principle of equity of a joint stock company, the ownership concentration corresponds to the control and domination of operations decided by a small number of shareholders. Therefore, the ownership concentration will increase the information asymmetry between internal and external shareholders. At the same time, a few shareholders hold a large number of shares, so the number of shares available for trading on the market decreases, trading activity is poor, transaction costs increase, and restricts the entry of other investors. In contrast, the distributed ownership structure

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corresponds to the number of common shares held by a large number of shareholders, and the publicity of listed companies is higher. At the same time, distributed ownership structure will help increase the number of shares available to trade on the market. When the majority of outstanding shares are free float, regular trading activities by investors will reduce average transaction costs. Thus, the Free-float will increase the liquidity of the stock through: (i) reducing transaction costs because when investors frequently change their portfolio, the average transaction cost will decrease and the liquidity of the stock increases (Demsetz, 1968; Merton, 1987); (ii) reducing information asymmetry between groups of shareholders, limit the risk of stock transactions when transactions of shareholders are carried out according to the law of supply and demand in the market (Akerlof, 1970; Amihud & Mendelson, 1980; Kyle, 1985).

When shareholders have different ownership purposes, it will lead to different trading behavior and it is the trading behavior that has a strong impact on the liquidity of the stock. Accordingly, the ownership structure will affect the liquidity of the stock. The research results will contribute empirical evidence on the relationship between Free-float and liquidity of stocks listed on Vietnam stock market; suggest to managers to have policies to increase the liquidity of stocks as well as increase the attractiveness of Vietnam's stock market.

## 2. LITERATURE REVIEW

The Efficient market theory states that stock prices will change at random, stocks are traded at par and sellers cannot inflate prices and buyers have no opportunity to "lowball" prices. However, Akerlof (1970), Copeland and Galai (1983), Kyle (1985), Glosten and Harris (1988) argues that, when noise trades from information-advantaged investors are made, stock prices reflect varying degrees of that particular information flow and, therefore, stock prices fluctuate non-randomly. It can be seen that stock price or stock liquidity is affected by noise trading of shareholders with informational advantage.

Centralized ownership is mean to be the majority of the company's capital owned by an individual or a group of individuals, organizations and these groups performs management activities and governs decisions. Therefore, the management's decision-making to protect the interests of this group is unavoidable and the interests of other small shareholders will be lost. Porta et al. (1996) pointed out that, countries where there is a high ownership concentration in businesses often have poor investor protection regulations. In contrast, distributed ownership is understood as the equity of the company owned by a large number of shareholders, the governance and decision-making by the Board of directors. Small shareholders do not participate in governance activities and have little incentive to control governance activities.

Ragazzi (1981) said that, a distributed enterprise is a joint stock enterprise owned by a large number of individuals, organizations and shareholders who are not able to receive benefits directly or indirectly superior to other shareholders. Earning per share is the same among shareholders. The members of the Board of directors, regardless of the number of shares held, receive remuneration based on contributions to management activities (remuneration at labor market prices). Insiders cannot directly or indirectly benefit from inside information of the business. It can be seen that the level of distributed ownership means the number of shares that are free float on the market.

Therefore, companies with a high percentage of Free-float will limit the phenomenon of asymmetric information between groups of shareholders.

Coffee (1991) and Holmström and Tirole (1993) showed that owners must trade-off between control and liquidity of the stock. Because, if the control is concentrated in a few shareholders and held for a long time, the number of shares traded on the market will decrease, leading to a decrease in the liquidity of the shares. It can be seen that the reason for the decrease in stock liquidity in enterprises with concentrated ownership is: Firstly, when owning a large number of shares, this group of shareholders has an information advantage over the business. Compared with the remaining shareholders, when strategic shareholders use information advantages to trade stocks, it will cause information asymmetry and reduce the liquidity of stock. Second, blockholders tend to hold stocks for a long time, thus reducing the frequency of stock trading and the number of shares available to trade on the market.

In agreement with the above, Bolton and Von Thadden (1998) analyzed the costs and benefits of firms with ownership concentration. Research suggests that, when ownership structure is concentrated by a group of shareholders, it reduces the number of shareholders who can participate in trading and thus, reduces the liquidity of stock. This is explained by the goal of strategic shareholders to take control and operate the company, so they hold shares for a long time and do not often trade.

Cohen et al. (2012) said that insiders always have the advantage of information and they achieve outstanding profits in transactions. Therefore, if strategic shareholders reduce their ownership ratio to increase common shareholders, the problem of information asymmetry will be reduced. Agree with Cohen et al (2012), Ding et al. (2016) conducted a study on the impact of Free-float ratio on stock liquidity on a sample of 55 countries (23 developed markets and 32 emerging markets) from 2003 to 2011. Stock liquidity measurements were used in the study including Amihud (2002) and Pástor and Stambaugh (2003). This study has proven that the Freefloat ratio has a strong impact on the liquidity of stocks, enterprises with higher Freefloat ratio correspond to higher liquidity of stocks. The impact of Free-float on stock liquidity is similar across countries with different institutions and information environments.

Currently, according to our understanding, the relationship between Free-float and the liquidity of stock hasn't been conducted in Vietnam yet. Literature review shows that the impact of ownership structure on stock liquidity is mostly done in developed countries. With the difference in institutions, information environment, governance activities, this study will test the impact of Free-float on the liquidity of stocks listed on Vietnam's stock market.

### **3. METHODOLOGY AND PROPOSED MODEL**

#### **3.1. Data collection**

Stock prices, trading volume, transaction value are collected daily, information on the consolidated financial statements and Free-float ratio are collected annually. Data was collected on the websites including: <https://www.hsx.vn/>; <https://hnx.vn/en-vn/>; <https://www.bloomberg.com/quote/VHINDEX:IND> and some websites of other securities companies. The data includes all

companies listed on the Ho Chi Minh Stock Exchange (323 companies) and Hanoi (354 companies) from 2014 to 2019. At the same time, to limit the effect of outliers, we removed observations with values less than the value at the 5% percentile and the observations with values greater than the value at the 95% percentile in the sample distribution for each variable.

### 3.2. Measurement of research variables

***Dependent variable:*** We measure the illiquidity of stocks based on two measures ILLIQ follow Amihud (2002) and LMx follow Liu (2006).

Following the studies of (Copeland and Galai 1983; Kyle, 1985; Glosten and Harris, 1988; Hasbrouck, 1991), Amihud (2002) provides a measure of stock illiquidity based on stock return per daily transaction value. This measure has been suggested to be used by many studies such as Goyenko et al. (2009); Lou and Shu (2014). The measure of illiquidity of stocks according to Amihud (2002) is determined by the following:

$$\text{Illiquidity}_{it} - \text{ILLIQ}_{it} = \frac{1}{D_{it}} \sum_{t=1}^{D_{it}} \frac{|R_{itd}|}{\text{VOLD}_{itd}}$$

In which,  $D_{it}$  the number of trading days of the stock in days of the year;  $R_{itd}$  daily return per share;  $\text{VOLD}_{itd}$  daily transaction value (million VND). The numerator is the stock's daily rate of return with  $P_1$ : the previous day's price,  $P_0$ : the next day's price,  $R_{id} = \frac{P_1 - P_0}{P_0}$  and  $|R_{id}|$  is the absolute value of the return on stock  $i$  at day  $d$ .  $\text{VOLD}_{id}$  - the trading value of stock  $i$  at date  $d$  is listed on two exchanges. Liquidity measure ( $\text{ILLIQ}_{it}$ ) is measured by the average value of the stock's liquidity on a daily basis in year  $t$ . The  $\text{ILLIQ}_{it}$  measure will not have a negative value and a large  $\text{ILLIQ}_{it}$  represents a large price change relative to the trading value of the stock, correspondingly, the liquidity of the stock will be low and vice versa.  $\text{ILLIQ}$  has a very small value, so the study will transform the natural logarithm of  $\text{ILLIQ}$ .

Agree on the concept of stock liquidity of Lawrence (1990), Liu (2006) determine the liquidity of stocks as the ability to trade quickly, with little impact on prices with low transaction costs. The LM measure shows the illiquidity of the stock, the higher the LM value, the lower the liquidity of the stock and vice versa. The  $\text{LM12}_{it}$  measure is calculated on an annual basis for each individual ticker. When testing the research model, the measure value  $\text{LM12}_{it}$  is transformed into the natural logarithm to avoid data bias. The  $\text{LM12}_{it}$  measure was calculated and used in the study as follows:

$$\text{Illiquidity}_{it} - \text{LM12}_{it} = \left[ \text{NoZV}_{it-1} + \frac{1}{\text{Deflator}} \frac{\text{turnover}_{it}}{\text{NoTD}_{it}} \right] * \frac{252}{\text{NoTD}_{it}}$$

In which,  $\text{NoZV}_{it-1}$  is the number of days without transactions of the previous year (t-1);  $\text{NoTD}_{it}$  is the number of transaction days in year  $t$ ;  $\text{turnover}_{it} = \text{TO}_{it}$ ; Liu (2006, p.635) defines the Deflator as 11,000 when measuring the year LM value.

***Independent variable (Free-float):*** Ragazzi (1981) said that, Free-float are understood as shares held by shareholders without restriction on transfer rights, do not hold control of the company and do not receive any outstanding benefits compared to other shareholders. The larger

the number of free float shares, the higher the “public” of the company. Therefore, the degree of ownership dispersion is measured through the ratio of Free-float, the larger this ratio corresponds to the higher the dispersion of ownership. The Free-float rate is defined as follows:

$$\text{Freefloat} = \frac{\text{Volume of outstanding shares} - \text{Volume of non free-float shares}}{\text{Volume of outstanding shares}}$$

The volume of outstanding shares is determined by the number of issued shares and minus (-) the number of treasury shares. Cases of shares that are not free float as stipulated in legal documents on securities in Vietnam include:

(1) Shares of subjects that are still in the restricted transfer period according to regulations such as: founding shareholders, private placement of less than 100 investors, issuance of preferred shares for employees, shares restricted from transfer of shareholders. FDI enterprises when transferring to joint stock companies;

(2) Shares owned by internal shareholders and related persons;

(3) Shares owned by strategic shareholders;

(4) Shares owned by State shareholders;

(5) Shares owned by shareholders, excluding fund management companies, securities companies, life insurance companies, mutual funds, investment funds, ETFs. Ownership of shares of shareholders is still restricted from transfer until the holding ratio falls below 4%.

**Control variable:** We have implemented and included a number of control variables in the research model showing the specific characteristics of the business. Control variables are determined based on studies such as Datar et al. (1998), Maug (1998), Stoll and Whaley (1983), Merton (1987) include: Size - the company size is determined by the natural logarithm of total assets. LnKLDG - measured in the natural logarithm of the total trading volume of a security over a year. BETA - beta coefficient is determined by the covariance of the stock return  $i$  compared with the VN-Index return over the variance of the VN-Index return. SAN - stock listed on HOSE and HNX is divided into 2 cases, built into dummy variable (0,1) and the base variable is HNX case.

Zscore – predictive coefficient of bankruptcy, to suit more types of businesses, we calculate the Z’ according to Altman (1983) as follows:

$$Z'' = 6.56 \frac{\text{Working Capitals}}{\text{Total Assets}} + 3.26 \frac{\text{Retain Earnings}}{\text{Total Assets}} + 6.72 \frac{\text{EBIT}}{\text{Total Assets}} + 1.05 \frac{\text{Market Value of Total Equity}}{\text{Book values of total Liabilities}}$$

### 3.3. Research hypothesis and research model

To evaluate the impact of distributed ownership structure on the liquidity of stocks listed on the Vietnam stock market, the study tests the following hypothesis:

$$\begin{cases} H_0: \text{Freefloat has no impact on stock liquidity} \\ H_1: \text{Freefloat has a positive impact on stock liquidity} \end{cases}$$

To test the pair of research hypotheses, the authors build a panel data regression model with

the following research variables: dependent variables include  $ILLIQ_i$  and  $LM12_i$  - both represent the illiquidity of stocks; independent variable: Free-float ratio;  $Controls_i$  are variables that control company-specific characteristics. The regression model is defined as below:

$$ILLIQ_{it} = \beta_0 + \beta_1 \text{Freefloat}_{it} + F' \text{Controls}_{it} + \varepsilon_{it} \quad (1)$$

$$LM12_{it} = \beta_0 + \beta_1 \text{Freefloat}_{it} + F' \text{Controls}_{it} + \varepsilon_{it} \quad (2)$$

According to the inspection standard of (Hsiao, 2003), this study selected the appropriate estimation method in the order of: least squares for panel data (POLS), random effects (RE), fixed effects (FE).

## 4. RESEARCH RESULTS

### 4.1. Descriptive statistics

The results of descriptive statistical analysis show that the basic characteristics of the variables including: mean, standard deviation, minimum value, maximum value are shown in Table 1.

**Table 1. Descriptive statistical analysis results**

Variable	Mean	Std. Dev.	Min	Max
ILLIQ	0.0047352	0.00664	9.80E-07	0.0300265
LM12	150.9753	251.6141	0.000426	1364.726
Freefloat	0.4988691	0.2124899	0.0958	0.9316
Zscore	3.984943	3.401749	-0.4224252	16,42192
Size	1505825	2198305	55989	1.30E+07
Volume	3.12E+07	6.08E+07	33246	3.52E+08
BETA	0.3321931	0.3317852	-0.2497989	1.192745

*Source: Author's calculation*

The dependent variable ILLIQ is calculated according to (Amihud, 2002) has a mean value of 0.0047, standard deviation of 0.0066 which means that for 1 million VND traded the average price change of the stock is approximately 0.47%. The mean of the variable LM12 is 150.97 units with a standard deviation of 251.61 units. The standard deviations of both variables ILLIQ and LM12 are quite large, showing the difference in illiquid value between stocks listed on the two Exchanges. The larger the ILLIQ and LM12 values, the lower the liquidity of the stock and vice versa.

The dependent variable Free-float has mean value of 49.88%, standard deviation 21.24% corresponding to 100 shares outstanding in the market with only 49.88 shares being free float and the rest is owned by blockholders, strategic shareholders, State shareholders, internal shareholders... Table 2 shows some information about the Free-float ratio of listed companies from 2014-2019.

**Table 2. The Free-float ratio over the years**

Year	2014	2015	2016	2017	2018	2019
Free-float > 5%	594	595	588	590	587	587
Free-float medium	48.5%	48.9%	50.5%	51.4%	51.1%	49.2%
Free-float > medium	275	269	279	273	276	271

Source: Author's team calculated and collected from <https://www.bloomberg.com/quote/VHINDEX:IND>

Statistics show that the number of businesses with a Free-float ratio greater than 5% and a Free-float ratio greater than the annual average. The 5% level is determined according to the criteria for evaluating stock selection in the VN-Index and HNX-Index basket. Thus, approximately 14% of listed companies do not meet this index. The annual average Free-float rate has not changed much with the highest value in 2017 at 51.4% and the lowest in 2014 at 48.5%. The relatively large dispersion of the Free-float ratio shows the large difference in the degree of concentrated and dispersed ownership among the listed companies on the Vietnamese stock market.

#### 4.2. Testing selected research methods

We perform the natural logarithm of the variables ILLIQ, LM12, Size, and Volume to reduce the error of the estimation results. Breusch and Pagan Lagrangian testing find out if there exist specific components for each object that do not change over time or not? Thereby, the study chooses the POLS or RE estimation method, with a pair of hypotheses built as follows:

$$\begin{cases} H_0: \text{PLOS test gives consistent results} \\ H_1: \text{RE test gives consistent results} \end{cases}$$

The results of model (1) and model (2) both show that the coefficient P-value = 0.0000 is less than the significance level of 5%, so there is enough statistical evidence to accept the hypothesis  $H_1$ .

If the model has a correlation between the independent variables and the unobserved characteristic component, the FE method (fixed effect) gives more reliable results and vice versa the RE method (random effect) for more efficient results. Table 3 shows the results of Hausman test with hypothesis pair:

$$\begin{cases} H_0: \text{RE test gives consistent results} \\ H_1: \text{FE test gives consistent results} \end{cases}$$

**Table 3. Results of Hausman test**

	ILLIQ (1)	LM12 (2)
Chi2(5)	38.31	224.01
Prob > chi2	0.0000	0.0000

Source: Author's team calculated from Stata software

The coefficient Prob > chi2 is less than 5% significance level, which means rejecting hypothesis  $H_0$ , accepting hypothesis  $H_1$ . In this case, the fixed effects (FE) model test will give a reliable estimate.



Before performing the regression analysis, the research carried out testing the defects of the model such as: Multicollinearity, autocorrelation and heteroskedasticity.

**Table 4. Results of multicollinearity test**

	BETA	Size	LnKL	FreeFloat	Zscore
VIF	1.42	1.31	1.30	1.14	1.06
Tolerance	0.706596	0.764197	0.771535	0.879304	0.940313
Mean VIF	1.24				

*Source: Author's team calculated from Stata software*

According to the results of Table 4, all variables have VIF coefficients less than 2 and Tolerance coefficients greater than 0.5, so there is no multicollinearity between the independent variables.

The results of Table 5 with Wooldridge test have a P-value < 5%, so there is enough statistical evidence to determine that model (1) and model (2) have first-order autocorrelation.

**Table 5. Autocorrelation test results**

	ILLIQ (1)	LM12 (2)
F(1,517)	41.937	33.628
Prob > F	0.0000	0.0000

*Source: Author's team calculated from Stata software*

At the same time, the results of Table 6 of Wald's test with fixed effects have a P-value < 5%, so it is statistically significant to determine that model (1) and model (2) have unrestricted heteroskedasticity.

**Table 6. Results of the homoskedasticity**

	ILLIQ (1)	LM12 (2)
Chi2(649)	8.0e^34	7.4e^8
Prob > chi2	0.0000	0.0000

*Source: Author's team calculated from Stata software*

In order to overcome the phenomenon of autocorrelation and unrestricted heteroskedasticity, the study uses the method of Feasible generalized least square – FGLS to estimate the model of panel data with significant autocorrelation and unrestricted heteroskedasticity. The difference of the estimator ( $\beta$ ) from OLS and FGLS is to use the error covariance matrix (W) to increase efficiency and solve the problem of violating the uniform variance assumptions and uncorrelated series in the errors according to (Cameron & Trivedi, 2010). The advantage of the FGLS estimate is that it is simple to compute using the residuals in the POLS estimate to construct the variance matrix. This method does not require the distribution of unobserved effects and random errors. The FGLS method estimates in the presence of autocorrelation (AR1), cross-correlation, and unrestricted heteroskedasticity in the panel data. When the FGLS estimate does not have the presence of autocorrelation, the estimation results will converge to the ML estimation results.

### 4.3. Regression results

The estimated results of the panel data regression model by the FGLS method are shown in Table 7. The condition to implement the FGLS method is that the data table is strongly balanced and no missing value so we only keep 586 listed companies, corresponding to 3,516 observations. Model (1) has a dependent variable of ILLIQ and model (2) has a dependent variable of LM12, the regression results show that there is a uniformity in the impact of the Free-float ratio on ILLIQ and LM12.

**Table 7. Regression results**

Variable	ILLIQ (1)	LM12 (2)
	Coefficient	Coefficient
FreeFloat	-0.68355***	-1.31201***
	(0.08982)	(0.15194)
Size	-0.61557***	-0.40394***
	(0.01739)	(0.03415)
Zscore	-0.06422***	-0.04592***
	(0.00578)	(0.00878)
LnKL	-0.65215***	-0.76742***
	(0.01279)	(0.01990)
BETA	-0.71298***	-0.85950***
	(0.04705)	(0.09775)
HOSE	-0.48746***	-0.52130***
	(0.06252)	(0.08910)
Constant	11,95261***	21.10809***
	(0.21336)	(0.41411)
Observations	3.516	3.516
Number of MCT	586	586

Standard errors in parentheses

\*\*\* p<0.01, \*\*p<0.05, \*p<0.1

*Source: Author's team calculated from Stata software*

Free-float has an estimated coefficient in model (1) of -0.68355 (standard error = 0.08982; z-stat = -7.61 and p-value = 0.000 is less than 1% significance level), there is enough statistical evidence to conclude that the Free-float has a negative effect on the dependent variable ILLIQ. Similarly, in model (2), the independent variable Free-float has an estimated coefficient of -1.31201 (standard error = 0.15194; z-stat = -8.64 and p-value = 0.0000 is less than 1% significance level), so there is enough statistical evidence to conclude that the Free-float has a negative effect on the dependent variable LM12. The ILLIQ and LM12 measures show the illiquidity of the stock, so an increase in the Free-float ratio has the effect of reducing ILLIQ and LM12, increasing Free-float, helping the liquidity of the stock to increase. This result is consistent with the conclusions of some studies such as Cohen et al. (2012), Ding et al. (2016).

Based on the asymmetric information theory and the behavioral finance theory, the mechanism of impact of ownership structure on the liquidity of stocks listed on the Vietnamese stock market can be explained as follows: *Firstly*, because the goal of strategic shareholders is to make long-term investment to enjoy economic benefits and take control, the number of shares they hold is large and almost no trading has been made for at least 3 years. As a result, the number of stocks available to trade on the market will decrease, trading activity will decrease, average trading costs will increase, and limit the entry of other investors. *Secondly*, for trading of insider shareholders and related person such as members of the Board of directors, supervisory board or founder, these transactions are restricted and sometimes this trading activity generates “noise signals” in the market. Although the efficient market theory assumes that the behavior of investors in the market is completely independent of each other, but the behavioral finance theory explains that investors are always influenced by “rumors” and “crowd psychology”. Normal investors always observe insiders’ trading activities because insiders have “insider information” and their buying/selling decisions are based on analysis of insider information. Therefore, this behavior creates “herd mentality” in the market leading to sell-off or rush to buy stocks, causing stock prices to fluctuate up/down abnormally. *Thirdly*, insider holders and related person make a group of large shareholders holding a large number of shares, participating in governance activities and having inside information of the company. With the advantage of information, their trading activities create noise trading in the market, especially in listed companies with little clear and stocks that are not continuously traded on the market. The trading behavior of this group strongly affects on the liquidity of stock.

Therefore, the transparency policy, information disclosure combined with a large number of shares available for trading are the main reasons for increasing the liquidity of stock. So, increasing Free-float will help increase the liquidity of stocks listed on Vietnam’s stock market.

## 5. CONCLUSION AND POLICY IMPLICATIONS

The objective of this study is to test the impact of Free-float on the liquidity of stocks listed on the Vietnamese stock market with the sample of all companies listed on the Hanoi Stock Exchange and Ho Chi Minh Stock Exchange in the period from 2014 to 2019. The experimental results are consistent with the hypothesis that there is a positive effect between Free-float and the liquidity of stocks listed by reducing transaction costs and reducing information asymmetry among shareholder groups. Increasing Free-float will help increase the liquidity of stock.

During the period 2014-2019, listed companies had a smaller than the average of Free-float ratio approximately 59%-61%. Therefore, raising the standard of conditions on the ratio of Free-float for listed companies is a matter of concern. The larger Free-float, the more guaranteed the “publicity” of listed companies. Governance activities are subject to the supervision of a large number of external shareholders, the policy of disclosure information is better. Therefore, the distributed ownership structure will reduce information asymmetry between shareholders and increase trading stock. In addition, increasing Free-float will encourage the participation of the professional investors.

According to the previous studies, Liu (2006)’s LM12 has not been applied to measure the liquidity of stocks on the Vietnamese stock market. Therefore, the results of the similarity test

between model (1) and model (2) prove that the LM12's measurement can be used to measure the liquidity of stocks listed on the Vietnamese market. The results of this study will add a measure of stock liquidity to the frontier market in a developing country. The study also shows that the efficient market theory is not suitable to explain the change of stock liquidity because information asymmetries still appear between groups of shareholders. The asymmetric information theory and the behavioral finance theory are more suitable to explain the impact of ownership structure on the liquidity of stocks listed on the Vietnamese stock market.

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# **TOURISM DEVELOPMENT POLICY IN THE TREND OF DEVELOPMENT OF SMART DA NANG CITY**

**MA. Cao Dinh Hai<sup>1</sup>**

**Abstract:** *Development of Smart Danang City is a major plan that is driving the development of many economic sectors in the City, including tourism. In order to avoid the negative effect and enhancing positive effect of the plan on tourism, the City's People Committee develops a set of policies as foundation institutions for development of not only elements of the smart city but also for the expansion service industry, including tourism. Using context analysis research method, this paper aims to find out several focal points that Danang city is facing. Based on the focal points, the author proposes a set of solutions to attract more attention of the City's Leaders having further actions.*

**Key words:** *Tourism development policy, Smart Danang City, Local government policy, tourism*

Developing tourism services in the trend of smart urban construction in Da Nang city is a new problem for not only state management agencies in the city but also businesses and service providers. calendar and people in the area. Tourism services in Da Nang city have been interested and developed by the city government for many years and achieved encouraging achievements such as: (i) diversifying types and forms of tourism service provision; calendar according to international standards; (ii) many high-quality tourism projects are developed in harmony; (iii) the combination of cultural traditions and modern forms of tourism is relatively suitable; and (iv) the tourism service industry has made great contributions to the city's socio-economic development. Such achievements are partly due to the systematic and scientific process of planning and organizing the implementation of tourism development policy in Da Nang city. However, in the trend of building a smart city in Da Nang city, tourism development policy needs to be reshaped on the basis of combining the thickness of existing policies with the planning and implementation of new.

The process of building a smart city in Da Nang city in the future will have many influences on the planning and implementation of tourism development policies in the city. To be able to plan and organize the implementation of new tourism development policies, compatible with the process of building and developing a smart Da Nang city, it is necessary to have a new mindset on policy making for tourism development. on the basis of inheriting and promoting past policy achievements. The vision and content of tourism development policy in the trend of building smart cities in Da Nang city also need to be studied in order to catch up with this new process in the city. Accordingly, the general assessment of policies related to tourism development in the trend of building smart cities in Da Nang city will provide implications for further improving the system of development policies. tourism development in this area.

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## **1. ANALYSIS OF THE CURRENT STATE OF TOURISM DEVELOPMENT POLICY IN THE TREND OF DEVELOPING A SMART DA NANG CITY**

### **1.1. Content of a number of policies related to tourism development in the trend of building a smart Da Nang city**

#### **1.1.1. Decision No. 164/QĐ-UBND dated January 11, 2018 of the People's Committee of Da Nang City on promulgating the Smart City Master Architecture in Da Nang City**

The overall smart city architecture in Da Nang has many different contents, comprehensively covering all aspects of smart city construction activities. Therefore, in this section, NCS only summarizes the contents related to tourism development in the trend of building a smart Da Nang city.

##### ***Firstly, about the concept of smart tourism***

Decision No. 164/QĐ-UBND affirms that smart tourism is a more developed form of traditional tourism or e-tourism, aiming to bring new values and new experiences to tourists. Improving the quality of tourism services, contributing to sustainable development. Smart tourism consists of three main components:

(i) Smart destination is part of smart city. With the implementation of smart city construction, not only residents but also tourists can use the conveniences that a smart city brings such as connection infrastructure, information sharing, smart traffic, ensuring security, accessibility and interaction with tourist areas.

(ii) Smart experience: Based on modern technology, visitors can make a travel program completely online such as booking a hotel; booking air tickets, trains; look up information about places, events, food, traffic, weather; online payment; View comments and feedback from other visitors as well as participate in evaluations and suggestions about service quality... All these activities make a different experience during a visitor's journey, leading to a change. fundamental change in the way the tourism sector operates.

(iii) Smart business ecosystem is created based on the cooperation of all stakeholders (government, businesses, social organizations, people,...). Through the sharing of information and resources, the government is built in an open and dynamic way, rather than just in the role of managing and providing infrastructure.

##### ***Secondly, about the model of smart tourism organization***

The smart tourism organization model in Da Nang city includes the following components:

(i) The central management agency is the Ministry of Culture, Sports and Tourism as an agency decentralized by the Government to manage the industry. Accordingly, the Ministry of Culture, Sports and Tourism assumes the prime responsibility for implementing policies on smart tourism development at the national level and general industry management on a national scale.

(ii) Management agencies in the province include City People's Committee and Department of Tourism; Management agencies at district level include People's Committees of districts, districts and the equivalent. Accordingly, the City People's Committee directs the Department of Tourism and the People's Committee of the district in the process of planning and organizing the implementation of relevant policies.

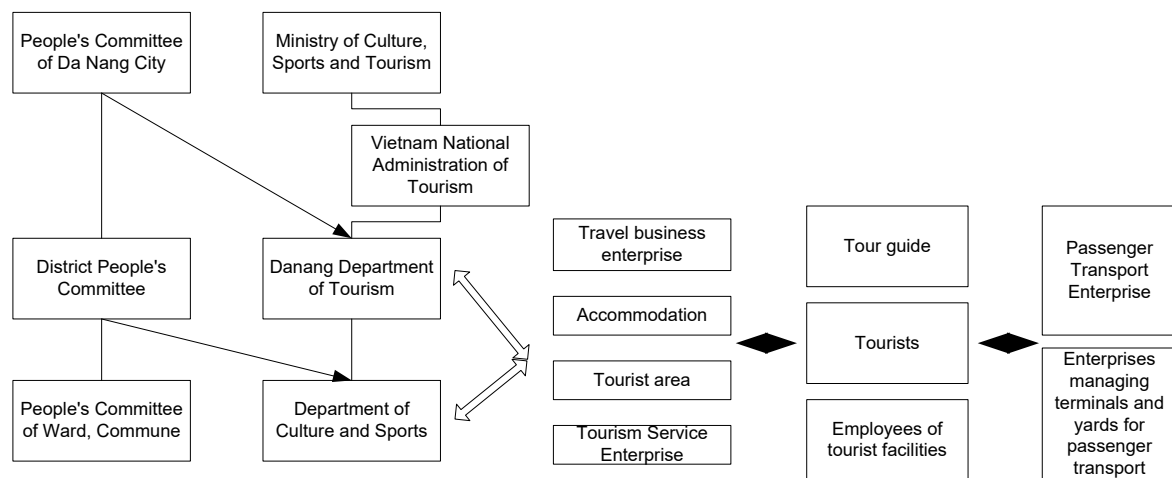
(iii) The target group of smart tourism development policy includes the following units:

- Groups of businesses and equivalents directly related to the tourism sector: Travel business enterprises, accommodation establishments, tourist resorts, tourism service enterprises.
- Group of individuals: tour guides, tourists, staff of tourist accommodation establishments.
- Group of supporting enterprises: passenger transport enterprises, passenger transport terminal management enterprises.

### *Thirdly, about business processes*

The process of managing and providing tourism services with the participation of state management agencies, tourism service business units (travel, accommodation establishments, passenger transport, cuisine, etc.) shopping, ...), tourist areas, tour guides, tourists, service staff, local people. In this process, the visitor plays a central role, the rest of the actors interact with the visitor through the provision of services and information sharing. The detailed structure of tourism service provision and management model is shown in Figure 1.

The travel business process includes all activities before, during and after the travel journey, information technology is applied in the tourism business process to bring smart utilities and solutions to serve customers. visitors such as mobile technology, location technology, 3D technology, virtual reality technology and augmented reality technology.



**Figure 1. Smart tourism organization model in Da Nang city**

### *Fourthly, smart applications*

Applications in the field of smart tourism are divided into application groups according to main business processes. A number of smart tourism fields need to be prioritized for implementation on the basis of specific characteristics and available advantages of Da Nang, which are tourism communication and events; supporting tourists and ensuring safety, quality, price commitment and ensuring food safety. Some solutions in smart tourism are as follows:

- Chatbot application: support, look up tourist information.
- Automated information kiosks serving tourists.



- Tourism Pass/Mobile Tourism Pass: The card integrates information about tourist attractions, promotions and incentives at amusement parks, entertainment and cuisine; at the same time is an electronic payment means to replace cash for hotel services, taxis, sightseeing, shopping..., ensuring security for visitors.

- Beacon device: uses Bluetooth-based ibeacon positioning technology to serve in tours and resorts, has the function of locating, sending history and product information to visitors, as well as having the ability to pay at the point of sale without the use of cash or credit cards.

- Equipment serving virtual reality games, augmented reality: increase the experience value for tourists at tourist sites.

- Tour planning application according to individual needs.

**1.1.2. Decision No. 6439/QĐ-UBND dated December 29, 2018 of the People's Committee of Da Nang City on promulgating the Project on building a smart city in Da Nang city, period 2018 - 2025, with orientation to year 2030**

***Firstly, deploying, installing and operating a smart tourism monitoring system***

The agency in charge of this activity is the Danang Department of Tourism, the coordinating agency is the Department of Information and Communications. Accordingly, it will deploy a network of surveillance cameras at tourist attractions in the city, behavioral identification and analysis applications to manage and detect inadequacies that negatively affect the tourism environment. of Da Nang city such as beggars, stalking street vendors, unauthorized tour guides; and timely support visitors.

***Secondly, build and operate a tourism database***

The agency in charge of this activity is the Danang Department of Tourism, the coordinating agency is the Department of Information and Communication. Accordingly, the contents related to the Smart Tourism Architecture Framework will be deployed, in which the management of tour guides and tourism infrastructure will be implemented; business establishments in tourism, accommodation, travel services, etc., throughout the city to serve planning, analysis and forecasting in the field of tourism and smart tourism applications ; connection to the Open Data and Document Warehouse.

***Thirdly, the online accommodation system***

The agency in charge of this activity is the Department of Information and Communications. Accordingly, the Department will complete and update the shared system between agencies; serving online registration of accommodation of accommodation establishments, tourists (domestic and foreign), accommodation management of the police; timely support visitors; serving statistics and planning; connection to the Open Data and Document Warehouse.

***Fourthly, smart travel card***

The agency in charge of this activity is the Department of Tourism, in collaboration with the Department of Information and Communications. Accordingly, tourists coming to Da Nang city will be issued with smart cards to connect visitors with tourist service providers and destinations, connect public transport systems, central payment systems. commercial, supermarket; ensure visitors experience and enjoy the services and utilities according to their needs and support visitors when needed.

***Fifthly, virtual reality tourist spot***

The agency in charge of this activity is the Department of Tourism. Accordingly, the application of virtual reality (VR) and augmented reality (AR) technologies to help visitors have new experiences at tourist attractions, especially at historical sites.

***Sixthly, intelligent traffic control monitoring system***

The agency in charge of this activity is the Department of Transport. Accordingly, setting up a network of smart cameras, traffic flow sensors, speed measuring devices, cruise monitoring devices, vehicle activity monitoring devices...; connect and monitor the public transport system, connect to the traffic signal system, remotely control traffic lights according to real-time traffic, identify objects, vehicles, microprocessor The center is built on the basis of the existing infrastructure of the Traffic Signal Operation Center and public transport (if any).

***Seventhly, perfecting the security and order monitoring system***

The agency in charge of this activity is the City Police. Accordingly, establishing a network of smart cameras to monitor security and order; building applications to connect, store and process data from cameras across the city; application of object identification, suspicious behavior; patrol vehicle monitoring; analysis and decision support; share data for other systems and applications.

***1.1.3. Resolution No. 07-NQ/TU dated April 16, 2019 of the Da Nang City Party Committee on the development of information and communication technology infrastructure to approach the trend of Industrial Revolution 4.0***

Resolution No. 07 – NQ/TU identifies six major policy directions, including:

- (i) Development of telecommunications and information technology infrastructure;
- (ii) Development of data infrastructure;
- (iii) Communication infrastructure development;
- (iv) Infrastructure development of information technology parks;
- (v) Develop mechanisms and policies on information and communication technology infrastructure development;
- (vi) Focus on exploiting and effectively using information and communication technology infrastructure.

Resolution No. 07 – NQ/TU uses a set of different policy tools, including the following key tools:

- (i) Planning of communication infrastructure to 2030, vision to 2045. Synchronous planning of sensor equipment network using Internet of Things technology to serve the collection, data integration, monitoring activities of specialized fields on the same shared infrastructure;
- (ii) Information and communication technology infrastructure;
- (iii) Planning and building basic databases of the city, such as: population, land, construction, enterprises, connecting with specialized specialized databases, such as: civil status, health, education, tourism, employment, social security,...
- (iv) Urban spatial data infrastructure;

(v) Regulations on updating, sharing and exploiting information, data and databases shared throughout the city. Regulations on coordination between specialized state management agencies, information technology enterprises, associations and universities;

(vi) Policy to support information and communication technology enterprises to develop in the city;

(vii) Policy on human resource development commensurate with the development of information and communication technology infrastructure.

## **1.2. Focal points**

In the trend of building a smart city in Da Nang, tourism development policies need to be planned and implemented in the condition that information and communication technology infrastructure is developed quite strongly. Policies related to the social welfare of tourists also need to be focused to help tourists have a comfortable and pleasant psychology during their trip. Because the characteristics of the tourism industry are closely related to the psychological changes of tourists, policies affecting the social welfare of tourists such as: (i) confidentiality of personal information ; (ii) physical and property safety; and (iii) social facilities such as parking, introduction of tourist attractions. The control of destinations not only creates convenience for tourists when they do not have to spend a lot of time searching for tourist destinations, but at the same time, the privacy of tourists can be violated when Travelers' personal itineraries may not be confidential.

Therefore, tourism development policies in the trend of building smart cities at the provincial level may need to focus on the following points:

- Human resources for tourism development in the trend of building smart cities in Da Nang city.
- The development of enterprises providing tourism services and fields related to tourism service development such as passenger transport services, freight transport for service businesses tourism such as restaurants and hotels.
- Tools to encourage, encourage and motivate establishments to provide serious and quality tourism services to consumers. Accordingly, quality standards and measures of quality control of the process of providing tourism services as well as related services must be developed and implemented in practice.
- Developing a tourism development plan should take into account new factors arising from the smart city construction process such as: (i) digital infrastructure; (ii) the enterprise's digitization platform; (iii) e-government; (iv) connecting things; and (v) digitization of business operations.
- Develop and implement tourism development policies in the new context with the application of information and communication technology achievements. In particular, the focus is on policies related to information security of tourists, safety of tourists and connection and exchange of information between units operating in the tourism field such as: (i.) governing body of government; (ii) enterprises and tourism service providers; and (iii) domestic and international tourists.

## **2. SEVERAL PROPOSALS ON TOURISM DEVELOPMENT POLICIES IN THE TREND OF SMART URBAN CONSTRUCTION IN DA NANG CITY**

On the basis of analyzing the current status of a number of policies being implemented in Da Nang city related to tourism development in the trend of building smart cities in the area, the NCS

proposes a development policy framework. tourism in the trend of building a smart city in Da Nang city in the near future with the following characteristics:

***Firstly, the subject of tourism development policy in the trend of building smart cities in Da Nang city must be the People's Committee of the city.***

Tourism development in the trend of smart urban construction in Da Nang city is related to many different state management agencies in the city such as: (i) Department of Information and Communications; (ii) Department of Tourism; (iii) Department of Transport; (iv) Department of Planning and Investment; (v) Department of Finance; and (vi) other entities. In addition, the parties involved in this policy include many different subjects such as: (i) investors; (ii) visitors; and (iii) tourism service providers. State management agencies will officially participate in the process of planning and organizing the implementation of tourism development policies, while relevant stakeholders participate indirectly in the above process. Furthermore, stakeholders are also the subjects of tourism development policies; therefore, the participation of stakeholders in the process of planning and organizing the implementation of policies not only helps the policy making to be on the right track but also helps the organization to implement more smoothly.

The People's Committee of Da Nang City is the subject of tourism development policy in the trend of building a smart Da Nang city, helping to coordinate and coordinate between state management agencies in the city. favorable policy implementation. Furthermore, sectoral management policies promulgated by relevant Departments will provide space for coordination and systematization of policies. Placing a unified executive role in the City People's Committee will create an environment for systematic policy formulation and implementation. State management agencies at the sectoral level in the city will accordingly coordinate on the basis of implementation towards a unified goal.

***Second, the overall goal of the tourism development policy in the trend of building a smart Da Nang city is to bring Da Nang's tourism industry to the right potential on the basis of smart technology application to meet the needs of the city. visitor needs and state management requirements for the tourism industry***

Tourism development policy, in any context, must be a state management tool of the Da Nang city government to aim at developing not only the city's tourism industry but also the development goal of the city. socio-economic development of the city. Accordingly, resources for tourism development are reasonably mobilized to meet the development needs of the tourism industry but do not affect or negatively affect the development of other economic sectors and fields. With the application of information technology in tourism development, the management capacity of the city government for tourism development will be increased and moreover, the calculation of necessary resources will be carried out effectively. than. Human resources, capital and technology will be mobilized more rationally with the application of information and communication technology. Tourism development will not occupy much space for resource development of other sectors and fields. For example, labor resources will not flow into the tourism sector as much as some tourism services can be realized through the application of information technology; At the parking lots, there will not be too many guards and guide visitors in getting the car in and out of the parking lot. The security protection for visitors also does not necessarily attract a large number of workers in this field.

Tourism development is just one of the fields that contribute to the overall socio-economic development of Da Nang city. In addition to tourism development, Da Nang city also has goals to develop other industries; therefore, tourism development needs to be placed in overall relation with other sector development plans. Development in relation to other industries and fields can maximize the resources of Da Nang city in terms of: (i) infrastructure; (ii) human resources; (iii) investment capital; and (iv) scientific and technological resources. Because the resources of Da Nang city are used together for the overall socio-economic development of the city, the mobilization of resources for tourism service development in the trend of building a smart Da Nang city also need to be calculated in relation to the development of other industries and fields. Accordingly, the determination of the optimal ratio of resources for tourism development will be considered according to the overall goal of the socio-economic development of Da Nang city.

***Thirdly, applying information technology to the inspection and control of the implementation of tourism development plans in the trend of building smart cities in Da Nang city.***

Tourism development in the trend of smart city construction in Da Nang city involves a large number of tourists, various agencies and management objects with a huge amount of information. According to the development of tourism, the scale of information is also increasingly large and therefore the ability to check and control the process of implementing tourism development plans in the trend of building smart cities in Da Nang city. Nang will exceed the capacity of the staff working directly. That requires functional agencies to inspect and control the application of information technology to do this work more effectively and save a lot of state resources.

The effectiveness of inspection and control is increased through: (i) shortening the time of information collection to serve inspection and control; (ii) officers in charge of inspection and control will not take much time to prepare documents for inspection; (iii) functional agencies can perform regular and continuous inspection and control on the system of applications that have been designed and connected between the inspecting agency and the test object.

The application of information technology to the inspection and control of the implementation of tourism development plans in the trend of smart city construction in Da Nang may lead to large initial investment costs. However, along with the actual implementation time, the cost and time to carry out the inspection and control work in the following years will be saved and reduce the workload. Information technology application not only reduces the time and cost of collecting and processing data related to inspection and control, but also provides early information to the authorities to take measures. early prevention, minimizing the unfortunate consequences occur.

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# DEVELOPING ENVIRONMENTAL ACCOUNTING PRACTICES IN VIETNAMESE ENTERPRISES

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**Abstract:** *Recently, sustainable development where all economic growth, social progress, environmental protection need to be ensured has become a common trend in most countries around the world. Many governments have set increasingly strict requirements on environmental protection, forcing businesses to change their perception of environmental issues. This policy requires businesses to show responsibility for environmental protection such as limiting waste, cleaning waste or having to compensate for damage when causing environmental problems, etc. Therefore, beside fundamental information on business situation and business performance, it is necessary to have information on environmental accounting in order to serve as evidence to the environmental protection obligations and environmental laws that businesses need to comply with. This paper will present several fundamental contents about environmental accounting, then propose several suggestions for the development of environmental accounting practices in Vietnam in the coming time.*

**Keywords:** *Environmental accounting; environmental accounting development*

## 1. OVERVIEW OF ENVIRONMENTAL ACCOUNTING AND ITS ROLE FOR BUSINESSES

Environmental accounting has appeared in developed countries since the 90s of the last century. Environmental accounting first appeared in the US in 1972, after the Environmental Summit in Stockholm (Sweden) in 1972 but focused on accounting at the national level. In 1990, environmental accounting in enterprises began to be studied. In 1992, the US Environmental Protection Commission conducted a project on environmental accounting with the task of encouraging and promoting businesses to fully realize all aspects of environmental costs, the relationship between environmental costs and costs. environmental costs and environmental factors in business decisions.

Environmental accounting is built on the basis of a system of national environmental laws such as the Law on Environmental Cleanup, the Law on Water Purification, the Law on Dangerous Species, the Sarbanes – Oxley Code (USA) and the Law on Recycling and Garbage waste, the Law on Environmental Debts, etc. The application of environmental protection measures and Environmental Accounting will increase costs.

There are many different definitions of environmental accounting. According to the United Nations Division for Sustainable Development (UNSD, 2003), a consensus among groups of

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experts from 30 countries has given the following definition that environmental management accounting is the identification and collection of related environmental information, analyze and use this type of information for internal decision making. Physical (non-monetary) information about the use, circulation and disposal of energy, water and materials (including waste) and monetary information about the costs, profits and savings associated with environment.

According to the International Federation of Accountants (IFAC), environmental accounting is a broad term, encompassing many meanings such as the assessment and disclosure of environmental information that incorporates financial information in accounting. and financial statements; evaluate and use environmental related information in the form of monetary and physical units in environmental management accounting; estimating costs and environmental impacts outside the business, often involving full cost accounting; resource accounting and the flow of natural resources in terms of monetary and physical units, often referred to as natural resource accounting; collect and report enterprise-level accounting information, natural resource accounting information and other information to serve national accounting objectives; consider information in terms of monetary and physical units related to the environment while implementing sustainability accounting.

According to the definition of the Institute of Environmental Management Accounting, environmental accounting is the identification, measurement and allocation of environmental costs, Incorporation of environmental costs in economic decisions, disclosure of information to stakeholders.

According to Japanese environmental accounting practice manual, environmental accounting has the goal towards sustainable development, maintaining good relationships with the community and pursuing environmental protection activities during normal operation, identifying benefits from activities. dynamic, providing a quantifiable approach, and supporting the method of disclosure.

Environmental costs have many types with different characteristics, businesses can apply common methods in the world, such as: Material flow cost accounting (MFCA), cost determination method an activity-based environment (ABC).

According to the International Federation of Accountants, environmental costs are divided into the following six categories:

- (1) Cost of materials included in the output of the product
- (2) Cost of materials not included in output
- (3) Cost of waste treatment and control, emissions
- (4) Expenses for pollution prevention and other environmental management costs
- (5) Research and development expenses
- (6) Environmental costs are less tangible.

Environmental income is the result obtained from the process of carrying out environmental-related activities in the enterprise, such as: income from product consumption subsidies from environmental protection activities, income from transfer of emission reduction certificates (CERs),



income from the sale of scraps and discarded products with value generated from production and business activities. Information related to environmental income on recycling waste into useful products, improving environmental quality will help investors and stakeholders have an overview and assess social responsibility. association of an enterprise.

Environmental accounting will help businesses achieve many benefits, namely:

*Firstly*, environmental accounting contributes to reducing the overall costs of the whole enterprise. The environmental accounting system performs functions such as observing, identifying, managing and cutting costs related to the environment at the enterprise. Based on data provided by environmental accounting, businesses can research and find environmentally friendly and cost-effective alternatives; research the waste treatment system, search for recycling sources, ensure the efficiency in the overall operation of the enterprise.

*Secondly*, improve the image thereby enhancing the competitiveness of enterprises. For businesses that focus on environmental protection and have an environmental accounting organization, the ability to produce is better, cleaner, and brings quality products. The improved image of the business also helps to attract the attention of more investors. At the same time, when doing well in environmental protection, businesses will also receive more incentives from the State.

According to the United Nations Division for Sustainable Development (UNSD, 2003), environmental accounting is the identification, collection, analysis and use of two types of information for internal decision-making, including: mechanical (non-monetary) information on the use, circulation and disposal of energy, water and materials (including waste); monetary information about costs, income and potential savings related to the environment. The International Federation of Accountants (IFAC, 2005) defines environmental accounting as the management of economic and environmental performance through the implementation and implementation of an accounting system and relevant practices. to environmental issues.

In general, environmental accounting is a part of accounting in enterprises, related to information about environmental activities within the enterprise in order to collect, process, analyze and provide information about the environment to customers. objects inside and outside the enterprise use to make decisions. Unlike traditional accounting, environmental accounting clearly cares about the environmental impact caused by business activities. Building an environmental accounting system will help businesses achieve many benefits, namely:

*Firstly*, save costs for businesses: One of the functions of environmental accounting is to identify, manage, research and cut costs related to the environment in enterprises. For example, environmental accountants do research to find cost-effective, environmentally friendly alternatives; study the waste treatment system, look for recycling sources, ensure the efficiency in the overall operation of the enterprise. In fact, when businesses accept to spend research and production costs associated with sustainable development with the environment, they can create greater values in the future.

*Secondly*, improve the competitiveness of enterprises: The application of environmental accounting will help provide more accurate, complete and comprehensive information to measure the implementation process, thereby improving the image of the enterprise with stakeholders. On

the other hand, good implementation of environmental accounting will help businesses produce better and cleaner products, bring quality products, lead to reduced costs, help businesses have a competitive advantage in selling prices and high profits. more, reducing legal problems.

*Thirdly*, enhance the position of enterprises, strengthen and satisfy relationships: Enterprises with good attitudes and behaviors towards the environment will be a great advantage in the development process, enhancing their position in the domestic and global markets, helping them to integrate into the international market more easily. The good application of environmental accounting to businesses will satisfy and strengthen the trust with stakeholders because state agencies and environmental organizations are always interested in economic development along with protection. environment. Businesses will receive many incentives from state agencies as well as environmental organizations when doing this job well.

## **2. CURRENT PRACTICES OF ENVIRONMENTAL ACCOUNTING IN VIETNAMESE ENTERPRISES**

For a developing country like Vietnam, considering consequences of environmental pollution on the economy and society, the Government of Vietnam also quickly recognized the consequences caused by environmental pollution to society and the economy. A series of positive policies have been implemented to balance economic development and environmental protection, towards the goal of sustainable development. Specifically, the National Assembly promulgated the Environmental Law for the first time in 1993 and the revised Law on Environmental Protection in 2005. Then, on November 15, 2010, the Law on Environmental Protection Tax (Law No. 57/2010) /QH12) was approved by the National Assembly at the 8th session of the 12th National Assembly. On that basis, on August 8, 2011, the Government issued Decree 67/2011/ND-CP stipulating taxable objects, tax bases, tax declaration, tax calculation, tax payment and insurance tax refund for environmental protection; The Ministry of Finance promulgates the following circulars: Circular No. 152/2011/TT-BTC dated 11/11/2011 guiding the implementation of Decree No. 67/2011/ND-CP; Circular No. 159/2012/TT-BTC dated September 28, 2012, amending and supplementing Circular No. 152/2011/TT-BTC; Circular No. 156/2013/TT-BTC dated November 6, 2013 guiding the implementation of a number of articles of the Law on Tax Administration, the Law amending and supplementing a number of articles of the Law on Tax Administration and Decree No. 83/2013 /ND-CP dated 22/7/2013 of the Government. However, these policies still have many shortcomings and are not synchronized. In implementation, there are still many difficulties. Sanctions for violating individuals and businesses have not been highly effective. In fact, currently, in the accounting accounts, significant costs related to the environment have not been recorded such as repair and compensation costs, troubleshooting costs, and costs of cleaning up and handling natural disasters, accident, destruction of ecological environment, living environment. Environmental accounting is a part of accounting in enterprises, related to information about environmental activities within enterprises to collect, process, analyze and provide environmental information to stakeholders. and outside enterprises use to make decisions. Therefore, in businesses, there is a need for environmental accounting.

Regarding the legal framework, in Vietnam, there has not been an accounting regime related to the organization of environmental accounting at enterprises. The current regime does not have documents guiding enterprises in separating and monitoring environmental costs from production

and business costs. There are no specific accounting accounts used to record significant costs related to the environment, such as depreciation of equipment, waste treatment workshops, costs of environmental monitoring, costs labor safety, repair costs, compensation, troubleshooting costs and cleanup costs, handling in accidents, destruction of the ecological and living environment. Currently, these expenses and income have not been shown in the income statement and not specifically explained in the notes to the financial statements. This makes it difficult for users of environmental accounting information, especially managers, to detect the scale and nature of environmental costs in general and each environmental cost item in particular. At the same time, it is also difficult for managers to get a full picture to evaluate the performance of the business fully and accurately, as well as to recognize the social responsibility of their business.

As for Vietnamese enterprises, most of them are small and medium sized enterprises. Therefore, when comparing benefits and costs, they tend to favor short-term benefits, rather than taking into account the impact of environmental factors in making production plans - business. Enterprises do not have a macro vision in production activities, in order to preserve the environment to achieve sustainable development in the future. The concept of social responsibility is unfamiliar or even ignored by many businesses. According to Duong Thi Thanh Hien (2018), the situation of enterprises hiding from making environmental impact assessment reports is increasingly common, environmental accounting in general and environmental accounting in private sector has not really been respected as desired by the management agencies. According to Tran Anh Quang (2019), the exploitation and use of resources exhaustively along with the amount of waste discharged into the environment during the production process is requiring the production planning to involve the participation of environmental accountants. However, there are very few businesses interested in the information provided by environmental accounting, especially cement manufacturing enterprises. According to Tran Phuong Thuy (2020), a large amount is solid waste, packaging, leftovers, materials used in cleaning and maintenance work, however, there are very few enterprises dealing in food services. Hotel services understand and apply environmental management accounting to management in general and accounting work in particular.

Regarding training, although some training institutions have introduced management accounting subjects, including environmental accounting, into the program, it is still very simple and has not been studied deeply. Even many institutions currently do not have this subject. Due to the lack of preparation of human resources, the team of accountants with expertise in environmental accounting is still very few and limited. At enterprises in general and enterprises with specific industries related to the environment such as companies producing cement, mining, minerals, plastic production, garment, etc. there are no businesses. allocating accountants in charge of environmental accounting, still performing the rotation of documents according to traditional accounting.

We can see that environmental accounting is still quite new to Vietnamese businesses but applying environmental accounting to Vietnamese accounting is very necessary. Because the production and business activities of enterprises today are related to the surrounding environmental factors such as the natural environment and the social environment. It plays an important role in sustainable development for enterprises in particular and the economy in general. When applying environmental accounting, it will help managers capture information about the environment,

environmental costs, help managers understand and make future orientations.

### **3. SUGGESTIONS FOR THE DEVELOPMENT OF ENVIRONMENTAL ACCOUNTING IN VIETNAMESE ENTERPRISES**

In the trend of building a green economy launched by the United Nations in 2010, Vietnam needs a new perspective and thinking in the economic development roadmap to ensure fast, stable and friendly economic growth. environment. The State needs to pay more attention to and issue more and more legal regulations to limit the overexploitation of natural resources, serving economic and social development, and at the same time minimizing the use of natural resources. acts of violating, destroying the environment, causing environmental pollution. In order to implement those legal provisions, it will inevitably incur more costs related to the environment, to environmental protection, to dealing with environmental impacts and to improving environmental quality in the business contract. businesses and in the implementation of investment projects. Therefore, managers need to have more information about the environmental related costs incurred. In fact, at present, environmental costs and environmental benefits do not have separate accounts for monitoring and accounting. A lot of environmental costs are being collectively reflected in management costs-related accounts. Because of such general reflection, it is difficult for managers to detect and recognize the scale and nature of environmental costs in general and each environmental expense in particular. Moreover, environmental accounting aims to achieve sustainable development, maintain good relations with the community, and improve the effectiveness of environmental protection activities. The methods of environmental accounting allow enterprises to identify environmental costs, identify incomes and expenses, and provide the most reasonable ways to measure indicators (monetary and in-kind) and support for environmental reporting. Therefore, environmental accounting is used as an information system about the environment to serve internal and external entities. Therefore, to be able to apply environmental accounting in businesses, it is necessary to have certain solutions.

#### ***Regarding the State***

Completing and synchronizing the legal system on accounting and environment. It is necessary to coordinate with professional associations to promulgate environmental accounting standards, specifying the environmental information presented in reports provided to outside enterprises, in order to ensure consistency in environmental management. These standards need to study the experiences of countries that have developed effective application of environmental accounting such as the United States, Japan... in order to approach international standards. To study and supplement accounting accounts, accounting principles and methods for environmental activities, and indicators related to environmental activities in the financial reporting system.

Strengthen the development and completion of a system of guiding documents, standards and regulations related to the environment and strict and clear environmental management in order to create a legal basis and corridor for development. environmental management accounting more clearly and specifically. A system of indicators in the environmental report, which is built on a scientific basis, complies with international standards, and takes into account the specific conditions of domestic enterprises, will be an effective tool for environmental management. create a level playing field for businesses.

At the same time, it is necessary to have policies to encourage individuals, organizations and enterprises to study and apply environmental accounting in their activities in order to ensure the benefits of enterprises and the environment at the same time.

### ***Regarding the business***

Changing their awareness and social responsibility towards environmental issues. Enterprise managers need to regularly pay attention to updating and implementing environmental accounting in enterprises, especially for manufacturing enterprises.

Improving the quality of human resources in environmental management accounting. Specifically, regularly organize professional training, including professional training in management accounting and skills in using information technology in accounting. The process of collecting, processing and analyzing environmental information for decisions of managers at all levels is quite complicated, requiring accountants with many difficult techniques, to really have a comprehensive understanding of the production technology, environmental impacts, and accounting expertise make specialized training all the more necessary.

Focusing on investing financial resources for the accounting apparatus, including environmental accounting, for Vietnamese enterprises, in the first stage, environmental accounting should be tested at a chain or a department before mass application to the entire enterprise.

Develop a long-term business strategy that takes into account the impact of environmental standards and regulations of the product.

### ***Regarding accounting training institutions***

It is necessary to continue to supplement, edit and update in order to improve the quality of teaching textbooks on environmental accounting. Universities and academies with accounting majors need to put environmental accounting into teaching as an intensive course, organized into topics for students to exchange, discuss and draw experience. Thereby, creating human resources with high qualifications in accounting work for businesses to contribute to improving the effectiveness of environmental protection, bringing sustainable development to enterprises.

Currently, Vietnam is restructuring and promoting fast and sustainable economic growth. In order to achieve this goal, in the process of economic development, environmental issues cannot be overlooked. That fact also poses a requirement for more application of environmental accounting in business activities.

## **4. CONCLUSION**

Environmental protection and environmental accounting are topical issues, urgent, and at the same time extremely difficult and challenging. Environmental accounting is an essential tool that not only helps businesses meet environmental protection requirements. Environmental accounting also improves business efficiency and enhances competitiveness. Environmental accounting is a new method in Vietnam. Understanding the nature, benefits and role of Environmental Accounting affects the sustainable development of society. The application and development of Environmental Accounting for Vietnam will contribute to cost management,

increasing profits towards the goal of sustainable development. Create a firm step for Vietnamese enterprises in the process of economic integration.

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# ACCOUNTING ESTIMATES - CURRENT PRACTICES AND SUGGESTIONS

Dr. Nguyen Thu Hoai<sup>1</sup>

**Abstract:** *Accounting estimates are formed on the basis of applying accounting assumptions and principles to ensure that accounting information accurately reflects the financial position and business performance of the enterprise. However, identifying accounting estimates, recognizing, determining and presenting the accounting estimates in financial statements is complicated. Accountants and business managers need to be fully aware of the importance of accounting estimates with the true and fair view of items on financial statements. Reliable accounting estimates are an integral part of financial statements. Thus, enterprises need to clearly understand the guidelines of current accounting standards and accounting regimes on the maximum amount that could be included in deductible expenses to calculate corporate income tax. In order to give a true and fair view on the financial position and business performance of the enterprise, the identification, valuation, recognition and presentation of accounting estimates in financial statements must be based strictly on given guidelines of the current accounting standards and regimes.*

**Keywords:** *Accounting estimates, financial statements, current practices, suggestions.*

## 1. INTRODUCTION

In the process of preparing and presenting financial statements, businesses often have to use a lot of accounting estimates. An accounting estimate is essentially an accounting judgment based on the latest and most reliable information. The values of these estimates often have a direct influence on the items on the financial statements of the enterprise, which directly affect the true and fair view of the information presented in the financial statements and influence the decisions of information users. In fact, there are many businesses in Vietnam that are still not aware of the importance of accounting estimates in providing useful information to users, fail to distinguish the difference between the accounting regulations to satisfy the true and fair requirements of the information presented in the financial statements and regulations of current Tax Law. There is still the phenomenon of taking advantage of accounting estimates to adjust to increase or decrease profits in the period, limiting the true and fair of information in the financial statements. In this article, the need for accounting estimates with reasonable accuracy will be discussed, current practices related to accounting estimates and suggestions for improving accounting estimates in Vietnamese enterprises will be presented.

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## 2. THE NECESSITY OF ACCOUNTING ESTIMATES

Accounting estimates are judgments made by accountants with respect to certain items of the financial statements that cannot be accurately determined. Although there are risks of using accounting estimates to misrepresent financial information in favor of financial statements providers, reliable accounting estimates are an integral part of the preparation and presentation of financial statements for the following reasons:

*Firstly*, accounting estimates is formed from basic accounting assumptions and principles. With the accrual assumption, economic transactions related to assets, liabilities and equity, revenue and expenses are recognized at the time of arising, not on the actual date. Financial statements prepared on the accrual basis reflect the financial position of the enterprise in the past, present and future. This assumption requires that assets, liabilities, equity, revenue, and expenses are recognized at the time they are incurred - the time when the item meets the definition and recognition criteria. However, at the time that definition and recognition conditions are satisfied, its value may not be as accurately determined as a product warranty obligation, restructuring obligations, obligation to restore the environment, etc.

*Secondly*, if reliable accounting estimates are removed, the information on the financial statements does not fairly reflect the financial position and business performance of the enterprise. For example, an enterprise makes investments in long-term assets, financial investments or inventories which are based on predictions about the likelihood of future economic benefits from those assets. However, in the course of the asset's benefit to the enterprise, transactions and events not as originally estimated arise, the recoverable value of the asset falls below the carrying amount of the asset, but those events are not reflected in the financial statements, leading to misunderstandings when assessing the financial position of the enterprise. Or when businesses provide products and goods to customers, but there is always a certain percentage of returned goods arising in the following period. Therefore, if revenue is recognized in the period taking into account those sales returns, the financial statements more objectively reflect the business performance of the enterprise.

*Thirdly*, accounting estimates for the fair value of investment real estate items, financial assets, financial liabilities, pension liabilities, etc. in order to provide financial information that is useful to current and potential investors and creditors in making investment and lending decisions for the business. Investors and creditors' expectations for returns depend on their assessment of the value, timing, uncertainty of future net cash inflows into the business, and their judgment on management's responsibility for the economic resources of the entity. The fair value of investment real estate, financial assets, financial liabilities, pension liabilities, etc. helps investors and creditors assess their ability to create as well as the company's future cash flow needs.

*Fourthly*, the use of professional judgment benefits the business. Because the activities of enterprises are in different fields, the ability to operate and manage in enterprises is not the same, therefore, it is advisable to allow managers and accountants to use professional judgments based on professional judgments. Based on the actual monitoring at the enterprise, it will help the information presented in the financial statements better meet the requirement of showing the closest true value of the enterprise.



### 3. THE CLASSIFICATION OF ACCOUNTING ESTIMATES

To clearly examine accounting estimates of several items on the financial statements, we approach accounting estimates based on different criteria as follow.

#### 3.1. Based on economic content

Based on economic content, accounting estimates include:

- + Depreciation charge of fixed assets and book value of fixed assets;
- + Net realizable value of inventory;
- + The recoverable value of plant, machinery and equipment, intangible assets, investment property, financial investments, debt bonds and contract assets;
- + Estimated value of provisions for payables such as provision for returns or for warranty, restructuring, high-risk contracts, obligation to restore the environment;
- + Estimated fair value of some items on investment property, financial assets and financial liabilities, etc. Estimated fair value less costs to sell for long-term holdings for sale, biological assets, etc.
- + Estimated contract value to determine contract revenue, estimate of work completed at the date of the statement of financial position to recognize revenue corresponding to the work completed, estimate calculate the probability of trade discounts, sales returns to recognize revenue in the period, estimate the percentage of customers receiving bonus points to recognize revenue under the program for traditional customers.

#### 3.2. Based on elements of financial statements

Based on elements of financial statements, accounting estimates include:

- + Accounting estimates are recognized as assets:
  - . Carrying amount of plant, machinery, equipment, intangible assets, investment property, investments in subsidiaries, etc (using cost model);
  - . The recoverable amount of plant, machinery, equipment, intangible assets, investment property when the property is damaged;
  - . Net realizable value of inventories when inventories are obsolete, out of fashion, etc;
  - . Fair value of investment properties, plant and equipment, intangible assets, financial investments, etc (applying revaluation model or fair value model);
  - . Fair value less costs to sell of long-term holdings for sale, biological assets, etc.
- + Accounting estimates is recorded as a liability:
  - . Provision amount for return of warranty obligations for products and goods for construction works, provision for return of contracts with high risks, provision for return of enterprise restructuring, provision for return of obligations restore environment, etc.
  - . Fair value of financial liabilities.

When estimates related to assets and liabilities are recognized in the Statement of Financial Position, the corresponding accounting estimates are recognized in the Statement of Comprehensive Income.

+ Accounting estimates for revenue under the contract with customers include accounting estimates for contract value, accounting estimates for revenue deductions such as trade discounts and sales returns, and accounting estimates for the percentage of completed work at the balance sheet date.

+ Accounting estimates as profit/loss on the statement of comprehensive income includes the lower value between the net realizable value of the inventory and the cost of the inventory; the impairment value of plant, machinery, equipment, intangible assets, finance leased assets, investment real estate, financial investments, etc; change in the fair value of financial assets and financial liabilities; change in the fair value less cost of sale of the biological asset; etc.

+ Accounting estimates is recognized as other comprehensive income on the statement of comprehensive income such as changes in the fair value of some financial assets and liabilities; differences increased due to revaluation of assets of factories, machinery, equipment, intangible assets, etc.

### **3.3. Based on the time of transaction incurred**

Based on the time of transaction incurred, accounting estimates includes:

+ Accounting estimates related to the incurred criteria such as depreciation of factories, machinery, equipment, intangible assets, investment real estate, the right to use leased assets, etc; impairment value of factory, machinery, equipment, intangible assets, investment real estate, right to use leased assets, etc;

+ Accounting estimates related to the criteria that have not yet arisen such as provisions for payment of warranty expenses, provision for payment of environmental restoration costs, provision for payable contracts with high risks, etc.

## **4. CURRENT PRACTICES RELATED TO ACCOUNTING ESTIMATES IN VIETNAMESE ENTERPRISES**

In the context of current Vietnamese economy, the international economic integration and the need to provide true and fair information on financial statements for users, accountants and managers have gradually become aware of the role and importance of accounting estimates in reflecting the financial position of the enterprise. Vietnamese enterprises with different characteristics in terms of business fields, the nature of economic and financial transactions leading to the content of accounting entries, measurement, recognition and presentation of information on financial statements have different characteristics. The following points are found out after conducting survey:

- Most of the enterprises have identified accounting estimates. With the current legal framework in Vietnam, the historical cost is widely used to record and present the items in the financial statements, enterprises have fully recognized accounting estimates related to depreciation charge for fixed assets (except for long-term land use rights), financial lease fixed assets, investment real estate for lease, financial statement on provisions for property damaged, provision for devaluation

of inventories, provision for doubtful debts and some enterprises have already recognized accounting estimates related to provision for devaluation of trading securities, provision for capital investment in another entity, provisions for payables include provision for warranties, construction and installation works, major repair costs, environmental restoration costs, etc.

- Accounting estimates related to depreciation of tangible fixed assets, intangible fixed assets (excluding long-term land use rights), financial lease fixed assets, investment real estate for lease by enterprises have relied on regulations and guidance of current accounting standards and current accounting regime. The determination of accounting estimates related to depreciation charge is based on the estimation of the useful life of the enterprise. Most businesses calculate depreciation charge of fixed assets and investment real estate by the straight-line method with the time frame prescribed by Circular 45/2013/TT-BTC.

- Accounting estimates related to provisions for property damaged, provision for payables that have complied with related regulations on objects of provision (conditions for setting up provisions), level of provision, recognition and present information in the financial statements in accordance with accounting standards, the accounting regime as well as the current financial mechanism.

The current practices related to accounting estimates in Vietnamese enterprises reveals the following limitations:

- Accounting estimates related to depreciation value of tangible fixed assets, intangible assets, financial leased assets, investment real estate currently at enterprises is mainly based on the provisions of the mechanism. The current mechanism is Circular 45/2013/TT-BTC. Accordingly, fixed assets are depreciated on the basis of historical cost of fixed assets, not taking into account the depreciable amount, the residual value, at the same time, not all fixed assets in the enterprise are invested and used up to their useful life. Moreover, choosing depreciation method based on the use of fixed assets has not been taken into account. Most businesses calculate depreciation charge using the straight-line method, therefore, there might be several periods of not operating, but enterprises still have depreciation expense. Estimates of the useful life of assets at enterprises are mainly based on the depreciation framework of Circular 45/2013/TT-BTC, initial estimates of useful life are rarely reviewed and adjusted to suit the actual use of assets at the enterprise, resulting in many fixed assets that have been fully depreciated but still continue to be used for many years at the enterprise.

- Enterprises make provision for inventories with net realizable value lower than historical cost, the provision amount to be set up is the difference between net realizable value and historical cost. It is appropriate to estimate the net realizable value of finished goods, which are determined on the basis of the estimated selling price less estimated selling costs. However, for raw materials, tools and supplies used for production activities, net realizable value is also determined based on the estimated selling price less estimated selling costs of raw materials and tools, which is not suitable.

- For the provision for bad debts, the risk for a bad debt is that the customer may be insolvent. The current estimate of provision for doubtful debts is based on the rigid regulations on provisioning according to the debt age of Circular 48/2019/TT-BTC, which does not reflect the actual situation of the debt collection, credit policy at each enterprise.

- The provision for payables at enterprises is currently or mainly a provision for warranty of products, goods, and construction works at the rate of deduction according to the financial mechanism of Circular 48/2019/TT-BTC at 5% of revenue. In addition, at other enterprises, provision is made for the cost of major repair of fixed assets, provision for severance allowances for employees. The provisioning must cover the cost of product and goods warranty according to a fixed rate as in Circular 48/2019/TT-BTC without relying on the actual situation of warranty work for each type of product, goods, construction works, thus not reflecting the true nature of transactions occurring at the enterprise.

## **5. SUGGESTION TO IMPROVE PRACTICES RELATED TO ACCOUNTING ESTIMATES IN VIETNAMESE ENTERPRISES**

*Firstly*, finalizing accounting estimates of the depreciation of tangible fixed assets, intangible assets, finance leases and investment properties:

+ The estimate of the depreciation charge of tangible fixed assets, intangible assets, financial leases and investment real estate must be based on the depreciable amount. Depreciable amount is calculated on the basis of cost less estimated residual value (enterprises now determine the depreciable amount on the basis of historical cost of fixed assets).

+ The choice of depreciation method for each type of asset at the enterprise depends on how the assets are used at the enterprise. For example, for assets used by management that provide benefits on a regular basis over time, the straight-line method of depreciation should be used. For machinery and equipment whose use time is based on the number of hours the machine runs, according to the number of products produced, depreciation is calculated by the units of operation method. Assets with rapidly changing technology use the declining balance depreciation method accordingly.

+ The useful life of the asset as a basis for determining the depreciation value must be based on the expected use of the asset at the enterprise, technical or commercial obsolescence, not based on the amortization timeframe of Circular 45/2013/TT-BTC.

+ In order to ensure that the depreciation charge of fixed assets over periods reflects the actual use of assets at the enterprise, the useful life of the assets needs to be reviewed annually, if there is a significant change from the previous year. Based on the original estimate, depreciation should be adjusted for the current year and subsequent years.

*Secondly*, with accounting estimates on the provision for devaluation of inventories, the provision that the enterprise makes is the difference between the historical cost and the net realizable value. The determination of the net realizable value of inventories depends on the purpose for which the inventory is held. Raw materials, tools and supplies of the enterprise are in reserve for production and business, not for sale, so the net realizable value is determined through the estimated selling price of the finished product minus the estimated cost to complete the product and less the estimated cost of the semi-finished product.

*Thirdly*, with the current provision for bad debts, enterprises rely on rigid regulations on the level of provisioning according to the age of debt specified in Circular 48/2019/TT-BTC, which does not reflect debt collection, credit policy at each enterprise. Therefore, in order to truly and

fairly reflect the financial performance of an enterprise, the estimation of provision for bad debts must be based on the credit policy of each enterprise, the actual management of debt collection of each business, the solvency of each customer at different points in time. In order to determine the appropriate level of provision for bad debts, each enterprise is based on annual tracking data on the amount of uncollectible receivables based on the credit policy applied at the enterprise, the solvency of each customer. At the same time, when the accounting standard system is revised or re-issued, the allowance for bad debts is determined according to the model of credit loss expected to be issued in accordance with the financial instruments accounting standard.

*Fourthly*, accounting estimates of the provision for payables is mainly the provision for the costs of product and goods warranties and construction works at the rate of deduction according to the financial mechanism of Circular 48/2019/ TT-BTC at 5% of revenue. The provisioning must cover the cost of product and goods warranty according to a fixed rate as circular 48/2019/ TT-BTC without relying on the actual situation of warranty work for each type of product, goods, construction works, thus not reflecting the true nature of transactions occurring at the enterprise. For manufacturing enterprises and commercial enterprises, in order to estimate the reserve number for product and goods warranty costs, enterprises must base on the data at the warranty department to evaluate according to the law of large numbers.

## 6. CONCLUSION

Accounting estimates are formed on the basis of applying accounting assumptions and principles to accurately reflect the actual financial situation and business performance of an enterprise. Accounting estimates are an integral part of financial statements. Accountants and business managers need to identify, measure, recognize and present accounting estimates in accordance with the provisions and guidelines of the current accounting system.

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# **DEVELOPMENT OF HEALTH EXAMINATION ON THE PRINCIPLES OF FAMILY MEDICINE TO EFFICIENTLY USE THE INVESTMENT RESOURCES FOR THE BASIS HEALTH NETWORK OF DAK NONG PROVINCE UNTIL 2025**

**MA. Vo Quang Hop<sup>1</sup>**

**Abstract:** *With the characteristics of a mountainous and newly re-established locality, Dak Nong has been facing certain difficulties in ensuring health and taking care of people's health. The issue of developing medical examination and treatment based on the principles of family medicine in order to effectively use investment resources for the grassroots health network is becoming one of the important and breakthrough orientations to meet the needs of patients demand for medical examination and treatment for people in the province, contributing to improving the efficiency of investment resources for the grassroots health network as well as the operational efficiency of the grassroots health system to meet the requirements of economic development socio - economic in the new period. Therefore, it is necessary to have an objective assessment of the role of the grassroots health network and the resources that can be mobilized to invest in improving grassroots health care capacity in the province; family medicine issues, medical examination and treatment according to family medicine principles with the issue of effectively exploiting resources for grassroots health in the province; from there, propose some effective solutions to implement medical examination and treatment according to the principles of family medicine to maximize the efficiency of investment resources for the grassroots health network in the province until 2025.*

**Keywords:** *Primary health care; Family medicine; invest effects; improve medical examination and treatment capacity.*

## **1. THE GRASSROOTS HEALTH NETWORK - THE "FRONT LINE" IN DISEASE PREVENTION AND PEOPLE'S HEALTH CARE**

The grassroots health network is an integral part of the health network in Vietnam, plays an important role, is "frontline" in taking care of people's health, promptly detecting epidemics, implementing basic medical examination and treatment services, and managing people's health at the grassroots. The grassroots health network is identified as the "foundation" of the health system in the spirit of Resolution No. 20 of the 6th Plenum of the 12th Central Committee on strengthening health protection, care and improvement people in the new situation. The current grassroots health network includes health facilities, villages, communes, wards, townships, districts, districts and towns, in which commune health workers are given the role of "gatekeepers". The grassroots health care system is the health care center closest to the people, ensuring people's access to health care, timely and low - cost health care.

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In fact, grassroots health care has been effectively implementing primary health care of the people, participating in environmental sanitation, preventing, combating and controlling epidemics in the community, taking care of the environment. maternal and child health care, etc. In particular, grassroots health care is increasingly important in protecting, caring for and improving people's health, reducing pressure on central health care, and implementing contents of primary health care, health programs and goals, especially medical examination and treatment for areas with special difficulties such as rural, mountainous, island, and remote areas. remote areas - areas with limited access to central health facilities.

From the past practice of Covid-19 epidemic prevention, once again affirms the role of grassroots health care, along with frontline health care, and grassroots health care is considered a core and central resource in prevention and control and repel and control disease. The grassroots health system has effectively implemented disease prevention and control, always closely following people, taking care of each household's health, carrying out tracing, testing, vaccination, management and transportation promptly patients in communes, wards and townships.

## **2. PRINCIPLES OF FAMILY MEDICINE - AN IMPORTANT ORIENTATION TO PROMOTE THE EFFICIENCY OF AVAILABLE INVESTMENT RESOURCES FOR GRASSROOTS HEALTH IN DAK NONG PROVINCE**

### **2.1. Principles of family medicine - some basics**

According to the American Association of Family Medicine (AAFP): "Family medicine is the medical specialty that provides comprehensive, ongoing health care for the patient. individual and family. It is a broad discipline that integrates biology, clinical science, and behavioral science. The scope of family medicine includes age groups, sexes, organs, and physical diseases". According to the World Association of Family Physicians (WONCA), the concept: "Family doctors are physicians who are responsible for comprehensive and ongoing health care for individuals in the family context, for family in the community context, regardless of age, gender, race, disease, cultural background and social class". Regardless of the approach, family medicine is comprehensive, continuous and coordinated care for patients with the aim of early detection and early treatment of disease problems, prevention and maintenance of health for each individual in the family and community.

The basic tenets of family medicine highlight several fundamental issues:

*First*, ongoing health care. This is the most important tenet of family medicine, through the control, monitoring, health care and treatment of people or specific individuals over a long period of time. Family doctors will have a solid understanding of the subjects of care and information related to the patient, building and strengthening a trusting, long-term relationship from both sides of the doctor and the patient's family. From there, determine a long - term health care plan for patients, especially those with chronic diseases.

*Second*, comprehensive health care. This is a prominent tenet of family medicine. Patients are cared for in a comprehensive way both biologically as well as psychosocially, serving both sick and healthy, the patient is truly the center, providing effective care right away from the beginning, in accordance with the patient's health status, economic ability, avoiding unnecessary referral.

*Third*, coordinated care. In this principle, the family doctor is like a “conductor” in taking care of the patient’s health. In addition to directly taking care of patients, family doctors also play a role in coordinating other resources in patient care, especially in cases where the patient needs care from a specialist. directly exchange necessary information with patients in the process of diagnosis and treatment between different specialists.

*Fourth*, care backup. A family doctor is a person who is in direct contact with patients and families, and has the best knowledge of the patient’s medical history and conditions affecting the patient. Therefore, family doctors not only play the role of treating diseases, but also have to help their patients prevent and control disease risks, prevent and slow down the consequences of diseases, predict problems. affects the mental health and well - being of patients and their families. On that basis, provide preventive advice to improve people’s health, etc.

*Fifth*, towards the family. Family medicine focuses on the patient and the patient’s family. Therefore, with family medicine, medical activities will aim to assess the overall impact of the patient on the family and vice versa, which are factors related to genetic diseases in the family, mental health. of each individual in the family, infectious diseases, health care for the whole family in different periods, etc.

*Sixth*, towards the community. On the basis of individual and family care, family medicine aims at community prevention, comprehensively assessing the community factors affecting the patient such as occupation, culture, environment or other aspects. community impact on patient health care. Therefore, the community becomes one of the factors used to treat patients, which can provide optimal health care services for patients in the principles of family medicine.

It can be said that it is the basic principles of family medicine that allow family doctors to make effective contributions to the development of the health system, meeting the increasing demand for medical examination and treatment. of the people, supporting grassroots health care, promoting and improving the level of medical examination and treatment of grassroots health workers, increasing access to health services for the people, especially the poor, contributing to reducing load for higher-level medical facilities. Family doctors provide continuous, comprehensive health care for patients of all ages, for the whole patient’s family, even before illness, until illness, recovery, and recovery as healthy. Simultaneously performing the function of preventive physician and clinician, building and strengthening a close and trusting relationship with patients right from the grassroots, thereby promptly giving appropriate treatment orientations, effective.

It is a fact that at present, the central levels in the Vietnamese health system are always overloaded, an important part of which is the operational efficiency of the grassroots health network, the quality of medical services, and the quality of medical services. The economy has not met the needs, has not created trust and effective treatment right from the grassroots. Therefore, improving the efficiency of medical examination and treatment according to the principle of family medicine is the “key” to effectively use the available resources at the facility, improve the quality of people’s health care right from the start. the frontline in the spirit of comprehensive, continuous, proactive disease prevention, actively contributing to reducing medical pressure on the upper levels, and at the same time promoting Vietnam’s healthcare transformation to keep up with the development of healthcare world.



## **2.2. Deploying medical examination and treatment according to the principles of family medicine is a solution to effectively promote investment resources for the grassroots health network in Dak Nong province**

Implement Decision 2348/Decision - Prime Minister dated December 5, 2016 of the Prime Minister approved the project to build and develop the grassroots health network in the new situation, in the period from 2016 to 2021, the grassroots health network in Dak Agriculture has been interested, invested in facilities, equipment, especially human resources. Up to now, in the province, there are 08 district health centers performing the tasks of medical examination and treatment, preventive medicine, population work and family planning. District health centers are invested to build infrastructure and purchase additional medical equipment with central and local capital sources to ensure basic medical examination and treatment activities and implementation of medical services. Technical services; In addition, district health centers are also invested in IT equipment, working facilities and management software to ensure the implementation of information technology application, digital transformation, remote medical examination and treatment.

During this period, investment resources for grassroots health in Dak Nong province are relatively large: 06 district centers have been newly built with a scale of 100-150 beds, 02 centers have been upgraded and repaired. treated with state budget funds, government bonds and foreign concessional loans, etc. Commune health stations have been invested in building infrastructure and purchasing basic equipment to ensure the attainment of the required standards. national criteria for communal health. Some health stations are invested from local budgets, domestic funding sources; the Ministry of Health has also had a number of ODA programs and projects invested in commune health stations, including the project "Care for people's health in the Central Highlands, phase 2", using ADB's concessional loans, the Program "Support for health policy development" using EU-funded aid and the "Educating and training health workers for health system improvement" project using loans of the World Bank (HPET), up to now 70/71 health stations have working offices, 100% of medical stations are equipped with medical examination and treatment equipment, reaching about 50% of the list according to Decision No. 1020/Decision - Ministry of Health dated 22/3/2004 of the Ministry of Health, Decision 4389/Decision - Ministry of Health dated 11/7/2018 approving the list of equipment for the model commune health station serving the implementation of the grassroots medical project, etc.

Regarding the quality of grassroots health human resources in Dak Nong province, there has been an improvement in quality, the provincial health sector has actively and actively implemented many important solutions in resource development effectively the province's health resources, especially grassroots health resources; focus on training, fostering and improving professional qualifications for medical staff. Currently, the province's human resources for grassroots health care have 1554 people, of which there are 333 doctors (accounting for 22,2%); the rest all have professional qualifications from intermediate, medical college or higher and university in other majors.

Particularly for commune health stations: 100% of health stations have doctors working and trained in family medicine, of which 15/71 health stations have Specialist doctor 1 in medicine family, 100% of commune health station staff have been trained and licensed to practice family medicine, 100% of commune health stations currently have conditions for licensing medical

examination and treatment according to medical principles. family study. Village health care is well organized with 100% of villages, hamlets and residential groups having health workers operating, over 85% of health workers trained at primary level according to regulations of the Ministry of Health.

It can be said that, in recent years, grassroots health care in Dak Nong province has been interested and invested in facilities and equipment, especially in training and developing human resources; Extensively implemented the renovation of service styles and attitudes towards patient satisfaction and basically met the medical examination and treatment needs of the people. As a result, people's health indicators are increasingly improved; many new techniques have been applied; grassroots health network is consolidated and developed; The monitoring and prevention of epidemics has been effective, especially during the recent Covid-19 epidemic, Dak Nong's health sector is one of the provinces that has mobilized all efforts, managed and controlled the disease well and developed implementation of vaccination work ahead of schedule; national health target programs meet and exceed set targets. However, investment resources for grassroots health in the province still present some difficulties and inadequacies. For the district level, the deterioration of some general hospitals after a long period of use, medical equipment has stopped at essential equipment, has not yet invested in high - tech equipment, modern. As for commune health stations, although they have been invested, they have also begun to deteriorate and some medical stations have not met the standards according to the new regulations of the Ministry of Health and have not fully met for the implementation of services related to family medicine.

Overcoming the above shortcomings, the health sector has continued to mobilize investment resources for grassroots health in the coming period. Including the program "Investment and development of health care networks in disadvantaged areas", using loans and grants from ADB; targeted funding sources from the central government: the socio-economic development and recovery program, the national target program for socio-economic development in ethnic minority and mountainous areas; term public investment local budget, socialization resources. Total development investment resources have been determined to be over 300 billion VND, with this resource will ensure a comprehensive investment in infrastructure and equipment for 100% of commune health stations, ensuring investment in infrastructure and equipment. Invest in relatively complete upgrading of infrastructure and procurement of additional equipment for the district level, ensuring the development of the grassroots health network in the direction of step by step modern, effective, sustainable, ensuring high - quality care. Comprehensive, continuous health for individuals, families and communities, contributing to improving the quality of primary health care and reducing overload at upper levels, etc.

Along with investment resources for infrastructure development and procurement of the above - mentioned equipment, the additional funding for human resource training and development to enhance the implementation of additional health services at the grassroots health care has also been determined through the approval of the ministry of health. Approving the Plan to improve grassroots medical capacity in the new situation associated with the development of medical examination and treatment according to family medicine principles in Dak Nong province until 2025. In which, especially enhancing technical services at commune level, ensuring 100% of

commune health stations can perform at least 70% of services according to technical classification according to Circular No. 43 /2013/Circular - Ministry of Health dated 11/12/2013 and Circular No. 21/2017/Circular - Ministry of Health dated 10/7/2017 of the Ministry of Health; 70% of basic medical service packages for grassroots health care facilities according to Circular No. 39/2017/Circular - Ministry of Health dated October 18, 2017 of the Ministry of Health; 70% of the list of professional and technical expertise is performed at the patient's home together with Circular No. 21/2019/Circular - Ministry of Health dated August 21, 2019 of the Ministry of Health on Guidelines for piloting activities on family medicine.

This is a big challenge for the health sector in Dak Nong in investing and developing resources for grassroots health, ensuring the efficiency and effectiveness of investment capital for grassroots health with the motto of strengthening management. medical examination and treatment in the direction of modernity, enhancing the usual technical services according to the classification and the list of professional and technical skills performed at the patient's home so that people have conditions to access more health services, management manage personal health information and aim at home health care, etc. The effectiveness and efficiency of capacity building of grassroots health care by the above-mentioned investment resources must be reflected in the the health care index, the number of medical examination and treatment visits at the grassroots health level are increasing day by day, not reflected in the number of medical facilities, the number of invested equipment and the number of trained human resources training, so the implementation of medical examination and treatment according to the principles of family medicine in Dak Nong province is indispensable to ensure effective use of invested resources invest in the grassroots health network of Dak Nong province by 2025.

### **3. MEDICAL EXAMINATION AND TREATMENT ACCORDING TO THE PRINCIPLES OF FAMILY MEDICINE IN DAK NONG PROVINCE AT PRESENT**

On the basis of the family doctor project for the period 2013 - 2020 according to Decision No. 935/Decision - Ministry of Health dated January 9, 2013 of the Ministry of Health, consistent with the view of identifying, providing medical examination and treatment according to the principles of family medicine to effectively use investment resources for the network. In the grassroots health network, the Provincial People's Committee issued Decision No. 483/Decision - People's Committee dated April 6, 2018 approving the plan to build and develop a model of family doctor's clinic in Dak Nong province in the period 2018 - 2020 with a number of outstanding results:

*First*, investment in upgrading and renovating district health centers, commune health stations, procurement of medical equipment is carried out step by step according to the roadmap, with capital. from different sources, gradually meeting the needs of medical examination and treatment. Medical examination and treatment establishments are invested in modern equipment as a basis for deploying high-tech and specialized services in medical examination and treatment; basically ensure the task of medical examination and treatment by division, step by step develop high-tech services to improve the quality of medical examination and treatment at all levels, especially at grassroots levels, in order to classify and treat common diseases, cure basic diseases for the people.

*Second*, about training, training. Basically, 100% of commune doctors and pharmacists are trained in family medicine principles, ensuring the implementation of basic medical services at

commune level and medical services as prescribed by the Ministry of Health. 21/2019/Circular - Ministry of Health dated August 21, 2019 of the Ministry of Health on guidelines for piloting family medicine activities. Implement the Project on Education and Training of Health Human Resources for Health System Reform (HPET), the Project “Taking Care of People’s Health in the Central Highlands Phase 2” in Dak Nong province, etc. In general, training work training and retraining have basically met the deployment of technical services, enhanced the ability to meet the medical examination and treatment needs of the people in the province, completed the human resources for implementation medical examination and treatment according to the principles of family medicine, a solution to improve grassroots medical capacity in the coming period.

*Third*, about investment in information technology. 100% of district-level medical examination and treatment facilities have used hospital management software (VNPT-HIS; Hopspitech, etc) to manage medical examination and treatment activities and pay for health insurance, nearly 50% of medical examination and treatment facilities. The patient updates the information and data into the electronic health record system. For commune level, 100% of commune health stations in the province use medical examination and treatment management software and electronic health record management software. Commune health stations ensure to extract medical examination and treatment data from the data portal of the Ministry of Health and maintain interoperability and electronic data payment on the Vietnam Social Insurance Assessment Portal, etc.

*Fourth*, on efficiency in medical examination and treatment and management of people’s health information in the province. The contents related to screening and management of chronic diseases at the commune level were initially carried out quite effectively. A roadmap and solutions have been developed to fully update people’s information on electronic health records. Some chronic diseases such as diabetes, hypertension, heart, lung, and mental diseases are managed and treated according to the principles of family medicine, etc.

*Fifth*, implementing family medicine activities in the local area. Implement basic medical service packages in medical examination and treatment according to Circular No. 39/Circular - Ministry of Health, professional and technical services on family medicine activities that are allowed to be deployed at patients’ homes according to Circular No. Circular No. 21/2019/Circular - Ministry of Health dated August 21, 2019 of the Ministry of Health. Currently, 100% of commune health stations have basic human resources to deploy the model of health station operating on the principles of family medicine with 88 doctors, 89 doctors, 76 pharmacists, 113 midwives, 146 nurses were able to participate in family medicine orientation training courses, 15 specialists I specialized in family doctors, 78 staff who are chiefs/deputies of health stations were trained in management skills, etc. to ensure human resources for the process of implementing the family medicine model and meeting the requirements for the development of the grassroots medical network and at the same time deploying the use of electronic health record management software, etc.

Although it has achieved the the results are encouraging, but the medical examination and treatment according to the principles of family medicine still reveals some shortcomings, especially in terms of electronic health record software. That is, the information of personal health records has not been updated and completed, and the information technology infrastructure, especially at

commune health stations, has not yet met the requirements; updating population data is incomplete and inaccurate; the national population database has not been integrated into the electronic health record system to form a unique identifier, so the synchronization of the health insurance participant database to create a medical record electronic health records face many difficulties; the updating of information in some communes has not been carried out regularly enough in the system of management records, personal health management records are still low; leaders of some units have not been determined in directing and implementing work, have not actively integrated professional activities and activities at the grassroots health level into the collection and creation of personal health records. In addition, communication has not been studied specifically, there are still many limitations in implementation, the impact of the Covid-19 pandemic directly affects the synchronization of personal electronic health record data. Core, in particular, the unified use of a medical examination and treatment management software from the provincial to the commune level has not been implemented, so updating personal data information into the electronic health record is still inadequate, etc.

The current practice of medical examination and treatment according to family medicine principles in the province still faces limitations such as lack of funding in implementing screening, collecting data on subjects with chronic diseases; a financial mechanism for health insurance payment has not been developed for the family doctor model; implementing management of electronic health records and unidentified patients; procedures, ways of managing and treating patients have not yet been determined, etc. are becoming obstacles for the implementation of medical examination and treatment according to family medicine principles to effectively use investment resources. for the grassroots health network in Dak Nong province.

*In the development trend of the world health and the general policy of the current health industry, the application of the family medicine model towards taking care of patients' health at the grassroots, improving the quality, The effectiveness of medical examination and treatment associated with improving the medical capacity of the grassroots health network is both a requirement and the main solution orientation of the health sector in Dak Nong to maximize the effectiveness of medical resources resources for the current grassroots health network and orientation to 2025.*

#### **4. SOME BASIC SOLUTIONS TO CONTRIBUTE TO THE DEVELOPMENT OF MEDICAL EXAMINATION AND TREATMENT ACCORDING TO FAMILY MEDICINE PRINCIPLES TO EFFECTIVELY USE INVESTMENT RESOURCES FOR THE HEALTH NETWORK AT THE DEPARTMENT IN DAK NONG PROVINCE UNTIL 2025**

*First*, enhancing the effectiveness of propaganda and education, improving people's health

This is an important solution, because strengthening communication Communication and health promotion will directly affect the awareness of all classes of people, creating a change in health care work, medical examination and treatment habits, old such as properly assessing the position and role of the grassroots health system and family doctors in health care, disease prevention and treatment at the facility. Therefore, to develop medical examination and treatment according to the principles of family medicine, first of all, it is necessary to effectively carry out propaganda, education and improvement of people's health.

Focus on doing well the communication, advocacy, mastery and dissemination of the Party's guidelines and lines, the state's policies and laws on the protection, care and improvement of people's health at the medical level grassroots economy; linking the objectives, tasks and activities of the grassroots health care with the socio - economic development objectives and tasks of the branch and areas in the province. Regularly renovate the organization of communication and education activities, integrate communication and education contents and messages, and raise people's awareness of health protection. Focusing on education creates a change in awareness about the position and role of grassroots health care, thereby properly promoting the "frontline" functions and tasks of grassroots health care.

In fact, the effectiveness of propaganda, education and improvement of people's health is mainly done through the contingent of medical staff at all levels. Therefore, the effectiveness of education depends on the skills of the medical staff to provide information and advice. Therefore, it is necessary to organize training and training to improve the skills of providing information, communication to improve health, and consulting skills for all medical staff at all levels, first of all, at the grassroots level. The team of family doctors - a regular force, directly taking care of people's health from the frontline, will then greatly contribute to improving the efficiency of medical examination and treatment according to the principles of family medicine associated with improve the operational efficiency of grassroots health care in the province today.

In addition, it is necessary to invest in basic communication equipment for communication rooms, health education communication corners of district health centers, commune health stations, and mobile communication teams in disadvantaged areas; mobilize the synergy of the whole society, especially the participation of socio-political organizations and social organizations. Accordingly, multi-functional district and city medical centers continue to improve their professional qualifications, develop medical services and techniques, including testing and paraclinical areas to ensure favorable conditions. suitable to fully implement the techniques of general treatment and basic care, regularly provide support and direct professional guidance, closely link the activities of the district health centers with the medical stations commune health care in order to gradually develop medical examination and treatment according to the principles of family medicine to effectively use resources invested in the grassroots health system in the province today.

*Second*, consolidating, perfecting and improving the operational efficiency of the grassroots health network in the province

The operational efficiency of the grassroots health system will directly determine the quality and effectiveness of development medical examination and treatment according to the principles of family medicine. The close association between family medicine and grassroots medicine becomes an important solution orientation to effectively exploit investment resources for the grassroots health network in Dak Nong province orientation to 2025. Therefore, consolidating, perfecting and improving the operational efficiency of the grassroots health network in the province is not only an immediate requirement but also a long-term requirement of the medical network. economy in the province. The contents of consolidating, perfecting and improving the operational efficiency of the grassroots health network must closely follow the Party's guidelines and policies and the State's laws in accordance with Resolutions No. 20-NQ/TW dated 25 October 2017 of the 12th

Party Central Committee, Decision No. 2348/Decision - Prime Minister dated December 5, 2016 of the Prime Minister, Action Plan No. 28-CTr/TU dated May 28, 2018 of the Provincial Party Committee on the implementation of Resolution No. 20-NQ/TW dated October 25, 2017 of the 12th Central Committee of the Party, thereby ensuring the fulfillment of the desired tasks and targets for the country grassroots health care until 2025.

Commune health stations must fully perform primary health care tasks for the people, improve the efficiency of comprehensive and continuous health management for each person in the locality desk, focusing on monitoring, health counseling, rehabilitation, maternal and child health care; prevention of infectious and non - communicable diseases and chronic diseases; provide medical examination and treatment according to their functions and tasks, and connect and transfer patients to higher - level medical facilities.

Under the impact of the 4.0 science and technology revolution, the application of information technology has become an objective requirement in improving the operational efficiency of the grassroots health network. In particular, focus on computerizing the activities of grassroots health and managing and monitoring the health of each citizen. Synchronize and connect the information system between commune health care and district health center to monitor and manage people's health in the area; develop and implement private electronic medical records, manage medical examination and treatment activities and medical examination and treatment expenses covered by health insurance at commune and district health facilities.

*Third*, improve the quality of human resource training to meet the development requirements of the grassroots health system in the province

In the end, the effectiveness of family medicine-oriented medical examination and treatment, the quality of grassroots medical work is regulated by the team of medical staff who directly perform medical examination and treatment at the facility, limitations and shortcomings of medical examination and treatment in accordance with medical orientation. Family in the province partly due to the number and quality of medical staff is not guaranteed. Therefore, it is necessary to focus and master a number of key measures:

Continue to advise and propose competent authorities to issue policies to attract high - quality human resources, especially staff at the grassroots health care to ensure medical examination and treatment for people right in the area, to ensure human resources for commune health stations, especially in remote, isolated and extremely difficult areas; ensure the ability to provide primary health care and accurately and promptly monitor the health of each person in the area. At that time, the development orientations to improve the medical examination and treatment capacity in the direction of family medicine in the province will bring effective results in practice, contributing to the effective exploitation of investment resources for health care grassroots health care, improving the capacity and efficiency of grassroots health care.

Continue to train health workers in all forms to meet the human resource needs for grassroots health; focus on training family medicine doctors for commune health; rare specialized training; organize training, training on information technology for grassroots health; update and digitize data of the health sector to meet the requirements of medical examination and treatment in the

4.0 technology era and deploy the family doctor model; strengthen the training of village health workers and village midwives for communes with difficult and extremely difficult socio-economic conditions. Pay attention to training, technology transfer, and fully implement regulations on continuing training, training through practice, and professional guidance for grassroots health workers.

Focus on training and fostering to raise political awareness; improve medical ethics, communication skills, cultural behavior of medical staff towards patients and patients' family members, creating peace of mind, closeness, friendliness and trust among medical staff. with local people. At that time, the effectiveness of grassroots health, medical examination and treatment according to the principles of family medicine will really play an important role in the care, treatment and prevention of diseases among the people right from the base.

With the characteristics of the mountainous locality, grassroots health care in Dak Nong faces many difficulties from socio-economic conditions, especially in remote and difficult areas. Therefore, it is necessary to organize two-way rotation of professional staff between the provincial and district levels, district and commune levels in accordance with local conditions in order to strengthen the professional capacity for grassroots health care. At the same time, maintain and strengthen medical cooperation programs and projects with favorable localities such as Ho Chi Minh City, Hanoi, etc. to carry out technical transfer. Paying attention to young staff, resource staff, in the planning are qualified and promising for development to create a source of staff in the development orientation of medical examination and treatment according to family medicine principles in order to exploit effectively invest resources for the grassroots health network in the province by 2025.

*Fourth*, applying information technology, building and perfecting the electronic health record software of the people in the province

An electronic health record is a medical document that records a person's health care from birth to death. In medical examination and treatment activities according to the principles of family medicine, the issue of building and managing people's electronic health records plays an extremely important role, which is the basis for promoting and implementing medical examination and treatment. treat diseases according to the principles of family medicine right at the grassroots medical level. In fact, medical examination and treatment activities based on family medicine principles in the province are facing difficulties due to the lack of people's electronic health information. Therefore, promoting the application of information technology, building and perfecting the electronic health record software of the people in the province will be a breakthrough solution in the development of medical examination and treatment according to the principles of medical examination and treatment. family medicine management in order to effectively exploit investment resources for grassroots health in the province until 2025.

First of all, it is necessary to promote research, develop and perfect the design of software for health records. electronic meeting the regulations of the Ministry of Health and other specialized agencies; To ensure that it is regularly upgraded and perfected to suit local regulations and actual needs, fully meet the data extraction, statistical reporting, and health management of the provinces. local medical unit. Complete and replicate EHR management software throughout the province. To ensure that by the end of 2025, at least 95% of people in the province have an EHR, are regularly



updated with health information and are connected to all medical examination and treatment facilities across the country.

Besides building and perfecting the health record software associated with the management of the medical identification system for people in the province. Attaching medical identifiers to people according to Decision No. 4376/Decision - Ministry of Health dated September 24, 2019 of the Ministry of Health promulgating regulations on establishment, use and management of medical identifiers to ensure each People's EHRs are assigned a medical identifier on the basis of their social insurance number and some administrative information of the people.

Implement uniformly and synchronously the operation management software of the commune health station connected to the district health center; Gradually integrate database and medical information, integrate single software into a single software to manage the operation of commune health stations, enhance application and make online reports by application of information technology at the same time associating the management of professional activities with the management of personal health records. These are not simple problems, especially for mountainous localities with many difficulties like Dak Nong, therefore, requiring the attention, efforts and mobilization of the whole political system in the province.

*Fifth*, improve the efficiency of the implementation of family medicine activities in medical examination and treatment of people in the province

Focus on implementing the basic medical service package paid by the health insurance fund, including the following services: medical examination and treatment techniques prescribed in Circular No. 39/Circular - Ministry of Health dated October 18, 2017 of the Ministry of Health on regulations on basic medical service packages for grassroots health care; Implement 51 professional and technical services on family medicine activities that are allowed to be deployed at patients' homes according to Circular No. 21/2019/Circular - Ministry of Health dated August 21, 2019 of the Ministry of Health on guiding the experiment. scores on family medicine activities.

In addition, effectively deploying a package of basic medical services for primary health care, prevention and health promotion, including essential services applied at district, city and provincial health centers. health stations in communes, wards and townships for health care, prevention and health improvement, strengthening the implementation of remote medical examination and treatment activities, etc.

*Sixth*, financial security for the operation of the medical network grassroots health to meet the implementation of family medicine in the province

First of all, speed up the roadmap of universal health insurance, support for poor, near-poor households and people with meritorious services; Review and supplement the list of technical services and the list of drugs covered by health insurance at commune and district health facilities to increase the accessibility of medical services of health insurance card holders right at the grassroots health clinic. Departments and islands ensure to provide enough clean delivery packages according to regulations of the Ministry of Health for village midwives in difficult areas.

In addition, develop and propose a health insurance payment mechanism for family doctor's clinics; home medical examination for some special cases and subjects; health examination and

consultation; visit, deliver at home, provide clean delivery packages in some special cases in mountainous, remote and mountainous areas. Promote the implementation of the mechanism of autonomy and self-responsibility of public health service units in the province according to the Government's Decree No. 60/2021/ND-CP dated June 21, 2021 on the basic financial autonomy of public non-business units; Socialization and public-private cooperation in the health sector are appropriate to each unit in order to improve the quality and efficiency of health activities. To pilot the method of allocating the state budget, using the Health Insurance Fund and other resources for grassroots health in the direction based on performance results and output targets, as a basis for proposing proposals. reforming the method of allocating state budget for grassroots health care.

*Seventh*, complete the program and roadmap for medical examination and treatment according to family medicine principles in the province

In 2022, organize direct and indirect communication of the practical benefits of the medical model. family doctor in the community; Organize training courses to direct communication to people about primary health care for each individual in the community continuously, comprehensively, and for life at grassroots health care according to the Principles of Family Medicine; Organize training and training on the use of software on the investigation Smartphone system according to Decision 831/Decision - Ministry of Health dated March 11, 2017 or personal health management records in the household; Building and perfecting electronic health record software, etc.

In 2023, strive to establish family doctor clinics in a number of district health centers; to encourage and promote family doctor clinics in private medical examination establishments; continue to enter patient data into the personal health record management software system; Ensure interconnection of electronic health records with relevant health information systems; pilot private healthcare to deploy the model of family medicine clinic...

In 2024 - 2025, conduct a preliminary review and evaluation of the effectiveness of the operation of the established doctor's clinic in 2023. In addition, continue to establish more family doctor clinics in some district health centers; to encourage and promote family doctor clinics in private medical examination establishments; continue to enter patient data into the personal health record management software system, etc.

## **5. CONCLUSION**

The principle of family medicine is comprehensive, continuous, prevention-oriented health care for individuals, households and communities. Primary health care is considered the foundation, backbone of the health system, the place of primary health care for the people, ensuring easy access to health care at low cost, ensuring fairness. Society, reducing the load on higher-level medical facilities. Therefore, developing medical examination and treatment according to the principles of family medicine in order to effectively use investment resources for grassroots health in the province is an important solution orientation, contributing to improving the quality of life. Primary care in the direction of comprehensive and continuous, helping to screen diseases, appropriate referrals, is the basis for improving the quality and effectiveness of grassroots health care in the province until 2025.

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# EXPERIENCE OF FOREIGN DIRECT INVESTMENT OF SOME COUNTRIES IN ASEAN AND LESSONS LEARNED FOR VIETNAM

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**Abstract:** *Direct investment abroad is the transfer of capital by investors; or payment for the purchase of part or all of the business premises; or establish ownership to carry out business investment activities outside the territory of Vietnam; and at the same time directly participate in the management of such investment activities in order to earn profits. In the context of actively forming the AEC economic community, with its active role, Vietnam is actively seeking investment opportunities in ASEAN to ensure three goals: liberalization of services, investment liberalization and labor liberalization. The article focuses on studying the experiences of countries like Vietnam in promoting foreign direct investment in order to draw lessons for Vietnam.*

**Keywords:** ASEAN, Southeast Asia, Investment, Vietnam, direct,...

## SINGAPORE'S DIRECT INVESTMENT IN ASEAN

For a long time, Singapore has faced difficult problems in terms of labor and land costs, high production costs, low population growth, an aging population structure, coupled with increasing harsh economic competition. To cope with these challenges, Singapore advocates to further improve the competitiveness of the economy, increase labor productivity, increase investment abroad and seek new markets, resources and technologies, especially focusing on the establishment of development triangles and quadrilaterals with neighboring countries to serve the above policy and turn Singapore into a center for coordinating the production, processing and assembling products of industrial companies. multinational company in the world. The countries receiving the most investment and the earliest of Singapore companies are Southeast Asian countries. After that, investment activities have been expanded to other markets such as Europe and North America, Latin America.

The Singapore government plays an important role in promoting investment activities of domestic enterprises in foreign markets. Although there is no specific Law on promoting foreign direct investment, the government has taken measures to promote this activity through 3 main helping departments: International Business Association Singapore (IE Singapore) , Economic Development Board (EDB), Standards, Productivity and Innovation Board (SPRING). These parts will have some main functions such as:

Helping Singapore-based businesses with their internationalization process (IE Singapore); promote Singapore businesses to implement regionalization (EDB).

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Creating competitiveness of Singapore businesses through the following forms: Encourage technological innovation; Focusing on training human resources to supply domestic enterprises and corporations, helping to increase business opportunities and access the market... (SPRING). This is the main difference of Singapore compared to some other countries. The focus on resources allows to enhance the competitiveness not only of businesses, but also of the nation, creating the Singapore brand for the flows of capital and technology.

Providing grants and concessional loans (EDBs) to help companies improve their access to finance abroad during their investment process, encouraging innovation to create growth potential. market development on a global scale

Implement tax incentives and investment insurance (IE and EDB) for businesses. The geographical proximity and economic relations make countries in Southeast Asia a familiar destination for direct investment flows of Singaporean businesses. Asia with many emerging and fast-growing markets attracts the attention of many foreign businesses, including Singaporean ones. In 2018, according to the Singapore Bureau of Statistics, the Asian region accounted for 55.3% of Singapore's FDI, of which, capital flows to other countries in ASEAN accounted for about 19.4% of Singapore's FDI.

In Singapore, offshore investment businesses are divided into two categories: locally owned companies and foreign owned companies. Domestically owned companies are those with more than 50% of the legal capital owned by Singaporeans, while foreign owned companies, on the other hand, are those with more than 50% of the legal capital owned by Singaporeans. foreign ownership. Domestic-invested companies own more than half of the offshore investments and have a large number of overseas branches. These companies thus play an important role in building Singapore's outward-looking economy.

Enterprises investing in ASEAN are mostly small and medium-sized enterprises, locally owned, investment activities are mainly based on familiar and trusting interactions with authorities and businesses in the country. native. Bilateral and multilateral investment incentive agreements and agreements signed between Singapore and ASEAN member countries also create conditions to promote investment activities of Singaporean enterprises.

Singaporean enterprises choose to invest in the service sector mainly to take advantage of the comparative advantages of high-quality human resources, in the service sector, especially services such as warehousing, transportation, retail sales and take advantage of a large network of branches and partners around the world to conduct investment abroad and into the ASEAN region in particular.

Building large corporations to promote investment activities abroad, helping businesses survive in the market without deep intervention from the state.

#### **DIRECT INVESTMENT IN ASEAN BY SINGAPORE THAILAND**

The Thai government has many policies to promote foreign direct investment enterprises. The companies invest mostly in the fields of: textiles, restaurants, construction of hydropower plants, agricultural machinery, ... The investment of Thai businesses is within the policy of the Ministry

of Commerce of Thailand. encourage investment abroad. The above trend shows that the Thai Government's orientation is not only based on exports but also has to invest strongly abroad to increase profits.

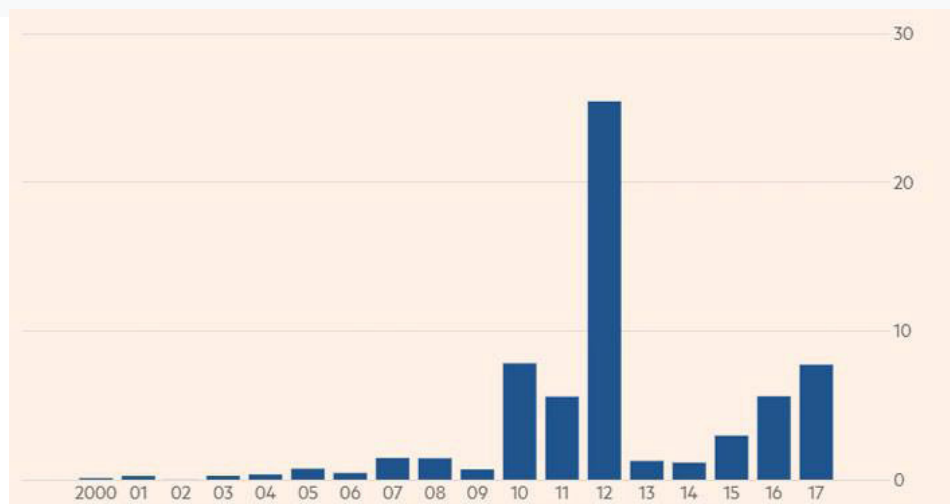
The aim of the Thai Ministry of Commerce will focus on encouraging businesses to increase border trade. The trend of shifting production lines to neighboring countries, such as mainly with Singapore, Cambodia and Vietnam, contributing to a decrease in import demand is considered as the main reason why border trade fell below target in 2015.

Investors in special economic zones will receive many incentives from the Thai Investment Board, such as corporate tax exemption for 8 years, 50% preferential tax reduction calculated on total profits from investors. within 5 years, double the reduction in transportation, electricity and water costs over 10 years and further reduce the tax on installation and construction costs by 25%. Other incentives include reductions in import duties on machinery, a five-year exemption for raw materials needed in production for export, and permission to recruit unskilled foreign workers. for some projects.

Thai businesses often choose to invest in countries that are geographically close, culturally similar. The two governments also pay special attention to creating favorable conditions for investment cooperation. Therefore, Thai investors do not face many difficulties when investing in these countries. At the same time, Thai companies' investments abroad stem from enhancing competitiveness, diversifying investment portfolios, and hedging the risks of the domestic economy, which is exposed to chronic political risks.

Thai businesses are most favored by abundant raw materials and potential markets. The push by Thai companies to invest abroad most of this investment flows into Vietnam, Myanmar, Cambodia and other Southeast Asian countries, where wages are lower and economic growth is higher than Thailand's. Lan. However, the problem that Thai businesses want is to reduce the hassle of transferring money out of the country. Thai investors said that in recent years, foreign direct investment activities have faced difficulties and obstacles, such as delays in negotiations to sign investment items, facilities and infrastructure. The infrastructure of the host country is still weak, especially the strict foreign currency management regime of some countries, which makes it difficult for Thai partners to transfer foreign currency abroad.

Not only that, the wave of Thai companies investing abroad comes from the desire to enhance competitiveness, diversify investment portfolios, and hedge against the risks of the domestic economy, which is faced by the domestic economy. with chronic political risk. In particular, Thai companies have reached a scale where the domestic market alone is no longer sufficient for them. Therefore, they expand outwardly to target their growth strategy.



(unit: billion USD)

**Figure 1.1 Value of M&A cases of Thai enterprises abroad from 2000 - 2017**

Source: Dealogic/FT

Data from Dealogic shows that Thai companies were involved in five overseas mergers and acquisitions (M&A) deals totaling \$5.6 billion in 2016. This year, 59 overseas M&A deals was implemented by Thai businesses, worth \$2.8 billion, not including the case of Minor buying shares of Corbin & King and ThaiBev's acquisition of Sabeco's shares. If these two deals are included, the value of overseas M&A of Thai companies this year has reached \$7.6 billion.

### **LESSONS LEARNED FOR VIETNAMESE ENTERPRISES IN DIRECT INVESTMENT ACTIVITIES IN ASEAN**

#### ***Firstly, choosing an investment location has many incentives.***

Vietnamese enterprises choosing to invest in other countries need to pay attention to investment places with many good policies to attract investment; geographical proximity between the two countries; mutual understanding between leaders and businesses of the two countries; harmony of culture and people. When investing in another country, usually, investors focus on several issues, such as political institutions, economic mechanisms, investment regulations, etc. to see if it is suitable for them or not. Besides, the process, procedures and papers to get an investment license are not too complicated, trouble is also an important factor in inviting foreign investors...Vietnamese investors should find a market where they can encourage them to invest. However, what not only Vietnamese businesses are interested in is how investment projects will be supported in terms of finance, tax, tax refund, investor protection policy, etc., so that they can be considered investment decision. Businesses, including small and medium enterprises, expand to the outside through, taking advantage of the support of specialized agencies, promotion programs and incentives in finance, tax, ...

#### ***Secondly, businesses should choose to invest in products that are strong in the country.***

When investing abroad, Vietnamese enterprises should choose outward direct investment projects whose products are goods and raw materials for domestic production in line with socio-economic development orientations. The association of the country places the investment capital in each specific period as well as the field of strength of the business. Enterprises develop business

strategies, product and brand strategies to gradually improve their management capacity. Along with that, enterprises also need to research and develop new products, innovate technology, and apply an advanced quality management system.

***Thirdly, improve competitiveness in the international market.***

Vietnamese enterprises themselves also need to constantly enhance their competitiveness. By improving their financial strength, science and technology, and human resources to expand markets, take full advantage of the available advantages, especially the special incentives of the government of your country for Vietnamese businesses to find ways to exploit new resources. Enterprises research and innovate technology, focus on producing strategic products and have training policies for domestic workers to develop key investment areas as well as investment products. Enterprises need to focus on training and fostering human resources. On the other hand, the Government needs to have a reasonable remuneration regime, creating motivation for workers to actively participate in working abroad. Vietnamese enterprises investing abroad should also strengthen chain links and distribution systems, expand markets, take advantage of capacity and capacity, open up business opportunities, create jobs and income sources. These activities have also formed a team of Vietnamese businessmen who are able to negotiate in international tenders, in joint ventures with foreign countries to enter the country. organize the implementation of investment cooperation projects and have made positive contributions to the economic development and social security of the host country, creating jobs for local workers working for the project. judgment..

Thus, it can be affirmed from the practice when TTC to ASEAN over the period of Singapore and Thailand can be suggested for Vietnam to base on its specific conditions and circumstances in perfecting the mechanisms. , policies on information investment to ASEAN in the coming time.

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# **INCREASE THE QUALITY OF MEDICAL EXAMINATION WITH HEALTH INSURANCE - EXPERIENCE APPLICATION OF MODEL “RBF” AND “5S” FROM SOME TYPICAL HEALTH FACILITIES**

**PhD. Tran Thi Phuong Diu<sup>1</sup>, PhD. Luong Thu Thuy<sup>1</sup>**

**Abstract:** *Improving the quality of medical examination and treatment services with health insurance is an issue that our Party and State are particularly interested in. In order for medical examination and treatment by health insurance to come into effect, creating trust among the people about social security policies, it is necessary to have synchronous and breakthrough solutions. The purpose of the article is to study 2 models “RBF” and “5S” in the health sector in some localities, thereby drawing some conclusions and implications for other health insurance medical services in Vietnam.*

*Keywords: Model; Health Insurance; quality; healthcare; RBF; 5S*

## **1. INTRODUCTION**

Vietnam is a developing country with many economic difficulties and often suffers from natural disasters and epidemics, so the issue of social security is of special concern to the Party and State. Social security policies demonstrate the role and responsibility of the state to ensure people’s lives are full, happy, and reduce risks. In the social security policies used by the state, health insurance is a pillar to ensure, care and protect people’s health. Health insurance is an important health financing mechanism, a prepayment mechanism applied by most countries around the world to help sick people get treatment for their diseases, and not fall into poverty together. The health insurance policies of the Party and the State have humanitarian meanings, have a profound community-sharing nature, and contribute to realizing the goal of social justice in protecting, caring for and improving people’s health. The view of the Party and the State is to move towards the goal of universal health coverage, which has been defined since the 1992 constitution. From 1992 to now, with the Government’s determination, the number of people participating in health insurance has increased. Health insurance is increasing, according to data from the Ministry of Health, as of December 31, 2021, the number of people participating in health insurance is 87.96 million, reaching a coverage rate of over 90% of the population. In fact, the quality of medical examination and treatment services covered by health insurance has some problems that are not really as expected. Therefore, improving the quality of health insurance services is one of the necessary and urgent contents, contributing much to the success of health insurance.

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RBF (Result Based Financing) and “5S” models are known for a long time and are widely used in the healthcare industry. These two models bring many positive changes in improving the quality of medical examination and treatment by health insurance. However, many medical facilities have not really paid attention to and properly understood this model. The following article uses the method of secondary literature review to point out the advantages, limitations, experience in applying RBF and 5S models successfully, thereby pointing out some lessons and implications for other medical facilities in the country can learn and implement.

## **2. IMPROVING THE QUALITY OF MEDICAL EXAMINATION AND TREATMENT BY HEALTH INSURANCE - APPLYING RBF AND “5S” MODELS**

### **2.1. RBF model and its application in some localities**

RBF stands for “Result Based Financing” in English; is a monetary or in-kind support provided to a Government or a locality, administrator, facility, payer or user of a health service after performance targets have been achieved or verified. The RBF includes a number of targeted interventions for beneficiaries (such as conditional monetary support), health facilities (such as results-based support), Governments (such as payment method). The RBF model has been piloted in some provinces and cities for the purpose of providing results-oriented health care services (outputs) by making the best use of inputs and implementing well the medical treatment process at district hospitals, district health centers, commune health stations. In Vietnam, RBF has been implemented in a number of specific localities:

**In Nghe An:** RBF is divided into two phases: Phase one is piloted from December 6 to December 2013 at 2 district hospitals (BVH), 2 district health centers (THC), 4 commune health stations (Center) CHS) with training activities, supplementing medical equipment, internal monitoring and evaluation activities, controlling RBF bonus spending. The second phase will be implemented in 24 months from January 1, 2014 to December 31, 2015 in 54 units in 11 districts of the province (Do Ngoan, 2015). After 5 years of implementing the project on health care activities by health insurance, positive results have been achieved, showing that RBF has a positive and clear impact on the quality of health activities. Implementing the RBF model has changed the stage of waste cleaning and aseptic; to medical examination and treatment, especially in diagnosis, treatment, records, medical records, notes, forms, books; the quality of medical examination and treatment and health programs have been significantly improved; the dispensing of drugs, upgrading of medical equipment fully and effectively. The RBF project has changed the sense of responsibility in each work of health workers in the place of implementation; improve professional quality; This project has wide applicability, high efficiency, and people’s health is taken care of more fully.

**In Quang Tri,** RBF is implemented in 4 districts (Vinh Linh, Gio Linh, Dak Rong, Hai Lang) with 4 components including: Health insurance support for the near-poor, support to strengthen district health services, improve health care services. capacity of training and human resource development, project management, with a total budget of about 200 billion VND. After 6 years of operation, the project has supported 177,086 turns of near-poor people to participate in health insurance (reaching 316% of the plan), increasing the proportion of near-poor people participating in health insurance to 92.86%; supporting the construction of 4 district health centers; providing modern medical equipment such as: DSA system, 80-slice CT scanner, 4D ultrasound, hemodialysis

machine...; supporting units in the province to train human resources and transfer technology with the number of 890 officers, doctors and doctors (Thu Huong, 2017).

RBF is receiving a lot of attention from the community, because this form makes a breakthrough compared to traditional input support. This is also a solution to encourage behavior change at the household level; Shifting priorities of health facilities to strengthen the handling of epidemics and health problems, giving priority to the poor; It is a promising tool to target more effectively disadvantaged people and/or poor households in remote and isolated areas. Therefore, this type of intervention needs to be expanded quickly to support the community, especially people who receive medical examination and treatment with health insurance cards.

## **2.2. Applying the 5S model**

5S is the basic foundation for implementing quality assurance systems, invented by the Japanese. 5S is the first letter of the Japanese words: “SERI”, “SEITON”, “SEISO”, SEIKETSU” and “SHITSUKE”. In English: “SORT”, “SET IN ORDER”, “STANDARDIZE”, “SUSTAIN” and “SELF-DISCIPLINE”. Towards a scientific and safe working environment for employees as well as patients, improving work efficiency, minimizing risks; Currently, a number of hospitals have developed and implemented the quality management model “5S FOR HEALTH CARE by Thomas L Jackson - Screening, Sorting, Cleanliness, Care, Availability” to help limit and prevent prevent errors and incidents in the process of care and treatment, increase the patient’s trust in medical care.

### **\*) *Meaning of 5S:***

(i) Sorting: Sorting out the necessary and unnecessary and eliminating the unnecessary in the workplace. Only essential items should be left at work. S1 is usually conducted on a periodic basis.

(ii) Arrangement: Sorting is the activity of arranging work items, semi-finished products, raw materials, goods, etc. at reasonable positions so that they are easily identifiable, easy to take, and easy to return. S2 is an activity that should be strictly adhered to.

(iii) Cleanliness: is to maintain hygiene in the workplace, machinery, equipment, working tools or areas around the workplace to ensure the environment and beauty at the workplace. S3 is also an activity that should be carried out periodically to help patients feel satisfied with the treatment environment at the hospital.

(iv) Care: Care is understood as the periodic maintenance and systematic standardization of the first 3S.

(v) Willingness: Is creating a habit of self-consciously following strictly regulations at work, consciously and proactively combining 5S standards with work to bring about higher productivity.

### **\*) *The process of implementing 5S in some hospitals***

5S has been widely deployed in many hospitals across the country, such as Tam Anh General Hospital, Vinh Phuc General Hospital... of which Dak Glong General Hospital is a typical example:

With the goal of aiming at a scientific and safe working environment for employees, improving work efficiency, minimizing errors and incidents in the process of caring and treating patients, from the beginning of 2016 Dak Glong District General Hospital has built and implemented the 5S quality management model. Initially, the model was deployed in a number of clinical departments,

but up to now, the hospital has deployed the model in most of the departments and rooms and takes that as the criterion to evaluate the quality for each department. Based on the 5S principle, the departments review and evaluate the daily activities of medical staff in the process of caring for and treating patients; develop a project to improve the working environment; screening of unnecessary medical supplies and supplies; make a list of proposed supplies and equipment in service according to the plan; then arrange and rearrange medical instruments and medical supplies neatly, cleanly, scientifically, easy to use and periodically evaluate the implementation of 5S of medical staff. For healthcare workers, the 5S method creates opportunities to promote initiative, improve techniques and create motivation to work actively and effectively. In particular, for hospitals, the application of 5S has contributed to improving quality, reducing operating costs, increasing patient safety, building patient trust and promoting financial growth. for the unit.

It can be seen that, at present, although there are still many difficulties and challenges in terms of facilities, equipment, human resources, etc., the implementation of the 5S model at Dak Glong District General Hospital has initially brought about certain effects, demonstrating the determination of all officers and employees in quality improvement, in order to create a safe, quality and effective medical examination and treatment environment. This is also an important basis for the health sector to research and continue to replicate the model throughout the province, contributing to gradually improving and improving the quality of medical examination and treatment, meeting the satisfaction and trust of sick people.

### 3. DISCUSSIONG AND CONCLUSION

*Firstly, Deploying the application of RBF model on a large scale will improve the quality of medical examination and treatment activities with health insurance at all levels.*

In order to strengthen health care activities with health insurance of the network of commune health stations in terms of both quality and quantity, to improve the quality of health care services covered by health insurance at the district level, it is necessary to strengthen medical facilities and equipment; Training and supplementing human resources to ensure medical examination and treatment and primary health care at commune health stations, hospitals and district health centers, especially human resources who can manage and control treating a number of chronic diseases at the facility; Implement policies on rotation of medical doctors from hospitals to health stations. Strengthen medical care and primary health care for holders of health insurance cards at commune health stations, district hospitals and the equivalent. Implement basic medical service package; Management of chronic diseases at commune health stations; Link health management activities at commune health stations with activities of family doctors. Application of RBF model will thoroughly solve these problems. On the one hand, RBF improves facilities, on the other hand, RBF also changes the sense of responsibility in each work of medical staff where it is performed; improve the quality of medical examination and treatment by health insurance.

*Second: Implement the “5S” quality management model for medical facilities that provide regular medical examination and treatment and medical examination and treatment with health insurance.*

Medical examination and treatment activities by health insurance are inherently overloaded and service quality is not really good, but service activities. But if implementing “5S” - hospitals will:

shorten the time in finding drugs and consumable medical supplies; accuracy, reduce errors to ensure patient safety; reducing fees due to overdue drugs and medical supplies, reducing inventory to help increase economic efficiency; reduce work load for employees, increase work efficiency; create a clean, orderly and scientific working environment and habits of medical staff. On the other hand, implementing “5S” will form the “habit” of hospital staff; prevent and limit confusions and errors due to lack of concentration as before; avoid wasting medical supplies; better control incidents, ensure patient safety, increase patient satisfaction, and employees are more adaptable and satisfied in their workplace. Since then, medical examination and treatment activities in general and medical examination and treatment with health insurance in particular will be comprehensively changed, thereby creating a clean, orderly and scientific working environment; shorten the time in finding medical tools and supplies. The average time to receive outpatient health insurance drugs decreased; Average distance traveled for 1 prescription reduced; The emergency medicine cabinet has been arranged in order, neat and easy to find and avoid errors; Supplies and equipment are located and ready at all times; Consumables are set at inventory thresholds and expiry dates are controlled. Moreover, for patients, it will create trust when using medical care services at the hospital.

*Third, the entire health system and the management team of the health sector in general and at health facilities in particular need to be synchronized and have a monitoring mechanism when implementing the two models mentioned above.*

In another aspect, it is easy to recognize the negative points in both RBF and 5S models during the implementation process. For example, drawn from RBF implementation activities in Nghe An, the RBF model is still facing many difficulties and obstacles in the implementation process such as: human resources, monitoring plan, and evaluation of indicators that are not yet available. closely, the dispensing of drugs and other expenses have not reached the prescribed level. Or like the 5S model, it is also very difficult to deploy in the context of overload, doctors and nurses work according to habits, and it is very difficult to organize work according to the 5S model. Therefore, it is necessary to concretize the regulations of the industry with a clear management mechanism, a reward and punishment regime along with a monitoring mechanism to enhance the science and effectiveness of both models.

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# THE DEVELOPMENT OF VIETNAM'S DIGITAL ECONOMY: THE SOLUTIONS FOR SUSTAINABLE DEVELOPMENT GOALS

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**Abstract:** *The article explores the specific characteristics of the digital economy. Compared with the traditional economy, this article points out four basic characteristics of the digital economy that are different from the traditional economy, namely: i) the data is a valuable resource in the digital economy; ii) the digital economy is the result of the development of new digital technologies; iii) the digital economy helps to create more interactions between producers and consumers; iv) the digital technology puts the consumer at the center. The article analyzes the current situation of Vietnam's digital economy development and points out the benefits of digital economic development for the purpose of sustainable development. However, the development of Vietnam's digital economy faces many difficulties and challenges that need to be solved. The article proposes solutions for the development of Vietnam's digital economy in order to meet the Sustainable Development Goals.*

**Keywords:** *Digital economy, characteristics, benefit, challenge, solution*

## INTRODUCTION

In 2020, Vietnam was one of the countries the forefront of Southeast Asia's digital economy growth. Vietnam's digital economy is expected to top US\$43 billion by 2025. Investors have also been pouring money into Vietnam to fuel growth across many sectors. Vietnam's digital economy is referred as a "dragon being unleashed." Particularly, in the context that countries are suffering from the synergistic impacts of the COVID-19 pandemic, of climate change and resource depletion, promoting digital economy development will be an important key to support countries in transforming their growth model, better exploiting resources, promoting the flow of capital, goods and services, creating new driving force for economic growth, ensuring sustainable, inclusive and comprehensive development. The shift and change towards rapid digitalization helps Vietnam develop a stronger and stronger digital economy. The Covid-19 epidemic has created another resonance for the digital transformation journey to happen faster and to soon complete the United Nations Sustainable Development Goal 2030.

## LITERATURE REVIEW AND METHODOLOGY

Several studies have been conducted on the development of Vietnam's digital economy typically as The Lam (2020) with his work "Where is Vietnam in the digital economy trend?"; P.V. Dung (2019) with the article "Digital economy - A "breakthrough" opportunity for Vietnam"; Ngoc Bich (2021) and her research "Vietnam first style convert number: Efforts to master digital

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Institute of World Economics and Politics (IWEP)

infrastructure”. In these works, the authors confirm that Vietnam’s digital economy has seen significant growth over the last decade and is expected to be valued at US\$57 billion by 2025. The country’s digital transformation is well underway and accelerated by the pandemic as businesses consider the possibilities of a virtual world having experienced sudden and overwhelming restrictions on physical mobility. The Vietnamese government is facilitating a regulatory and incentives-based environment to promote technological innovation.

B.T.Tuan (2020) had pointed out some difficulties and challenges in developing the digital economy in Vietnam such as Vietnam’s online payment rate is also not high, about 10% of total transactions compared to 49% of Indonesia and 52% of Malaysia. In the facing of those challenges and difficulties, Tran Thi Hang, Nguyen Thi Minh Hien (2019) with the research “State management in the digital economy”. The most important strategy that the Vietnamese government can pursue to accelerate socio-economic recovery is pioneering in digital transformation and encouraging changes. The government introduces a clear legal framework on the digital economy and take measures to protect intellectual property rights in the digital space, develop the IT workforce, and expand the start-up ecosystem... Among such measures, developing the workforce for the digital economy is a highly important issue. The authors confirm that Vietnam has ample opportunity for development of digital economy. In fact, Vietnam’s internet economy was worth \$21 billion in 2021 and contributed more than 5 per cent of GDP and is expected to reach \$57 billion in 2025, ranking it second in Southeast Asia. Growth in 2021 was 31 per cent, the highest in ASEAN<sup>1</sup>.

The methodology of this study is based on the qualitative analysis and real evidence related to Vietnam’s the development of digital economy as well as practical experiences in Vietnam’s enterprises and companies. Data collected from scholarly books and articles on Vietnam’s digital economy and its relation to education and training system. Some data cited from international organizations in Vietnam and state-level Key Sciences & Technology program too.

## RESEARCH CONTENTS AND RESULTS

### 1. The current situation of Vietnam’s digital economy development: Features and Benefits

As one of the countries with a fast-growing economy thanks to the orientation of developing the digital economy, Vietnam ranks 22/60 in terms of digitalization speed and 48/60 countries with the fastest digital transformation speed in the world (2020). The digital economy creates a new development space, opening up opportunities for Vietnam to develop breakthroughs, quickly catching up with developed countries that have just started the digital transformation process. Thanks to efforts to launch the national digital transformation program, Vietnam’s digital economy will reach 14 billion USD (2020), contributing 5% of GDP and ranking second in ASEAN in terms of digital economic growth (after Indonesia).

Vietnam is the country with the largest proportion of total value of digital economic goods in the region, reaching 4% of GDP; ranked second is Singapore with 3.2% of GDP; Indonesia 2.9% GDP; Thailand and Malaysia 2.7% GDP; Philippines 1.6% GDP (2020)<sup>2</sup>. For the scale of the digital economy, Vietnam ranks third in the region, with a value of 9 billion USD (after Indonesia and Thailand).

1 Vietnam Digital Economy Touches US\$ 53 Billion in 2022 Q1 – OpenGov Asia

2 Phạm Việt Dũng (2020). Kinh tế số - Cơ hội “bứt phá” cho Việt Nam, <<http://hdll.vn/vi/nghien-cuu---trao-doi/kinh-te-so---co-hoi-but-phacho-viet-nam.html>>

*Specific features of digital economic development.* The biggest difference in the development of the digital economy is the convergence of a series of new technologies such as big data (Big Data), cloud computing (Cloud Computing), artificial intelligence (Artificial Intelligence). According to an assessment by the Australian Commonwealth Scientific and Industrial Research Organization (CSIRO), compared with the traditional economy, the digital economy has the following characteristics:

*First, data is a valuable resource in the digital economy.* The development of digital technologies allows to collect data from many different sources, from each individual's smartphone to millions of sensor devices in factories and vehicles. Streams of data with data analytics capabilities create value in the actions of individuals and communities;

*Second, the digital economy is the result of the development of new digital technologies.* New digital technologies (including robotics, Internet of things, digital platforms) have a transformative impact that extends beyond information and communication technology to all other sectors: finance, transportation, manufacturing, media, education, healthcare...

*Third, the digital economy helps create more interactions between producers and consumers.* Digital-based business models allow multiple groups of people to interact, thereby creating positive effects for the entire network and improving efficiency by reducing transaction costs. E-commerce supports ordering goods and services online. Online advertising over the Internet becomes a tool to ensure accurate delivery of messages to each group of customers.

*Fourth, digital technology puts consumers at the center.* Consumers are important to manufacturers. The Internet makes consumers more powerful because they can freely share and propose ideas that not only change the shopping experience of customers but also affect the reputation of manufacturers.

Despite the COVID-19 epidemic, Vietnam's digital economy achieved a growth rate of 16% (2020) surpassing Malaysia, Singapore and the Philippines.

**Table: Digital economic growth in Vietnam and in Southeast Asia**

(Unit: Billion USD and %)

Year	Countries					
	Vietnam	Thailand	Singapore	Philippines	Malaysia	Indonesia
2015	3	6	7	2	5	8
2019	12	16	12	7.1	10.7	40
2020	14	18	9	7.5	11.4	44
Rate of increase	16%	7%	-24%	6%	6%	11%
2025	52	53	22	28	30	124
Rate of increase	29%	25%	19%	30%	21%	23%

Source: Google, Temasek, Bain (2020)

**E-commerce development.** E-commerce is one of the fastest growing sectors of Vietnam's digital economy. Thanks to the successful Internet universalization policy, e-commerce has exploded. E-commerce grows fastest in Vietnam's digital economy, reaching 13 billion USD, equivalent to 3.4% of GDP (2021). Regarding cross-border e-commerce, growing at an average of 35%/year, is the field with the fastest growth rate, 2.5 times faster than Japan<sup>1</sup>. Vietnam

<sup>1</sup> Vietnam E-commerce, Industry and Trade Agency. Vietnam seeks to boost its digital economy. [13 July 2018]. Available from: <http://www.vecita.gov.vn/tinbai/1593/Vietnam-seeksto-boost-digital-economy/en>.



has 48 Fintech companies providing deposit and cryptocurrency payment services. In 2017, there were 21 startups in the field of e-commerce. Many businesses have demonstrated their digital technology capabilities, implementing many high-tech projects such as self-driving cars, robots, and AI.

The Covid-19 epidemic has promoted the development of e-commerce, which has both promoted online consumers to increase rapidly in both quantity and quality while increasing the number of merchants participating in digital transformation. In 2020, Vietnam's e-commerce increased by 16% and reached a scale of over 14 billion USD. In which, online retail sales increased by 46%; ride-hailing and technology food increased by 34%; online marketing, entertainment and gaming increased by 18%. It is forecasted that the average growth rate of Vietnam's e-commerce in the period 2020-2025 will be 29% and by 2025, the scale of e-commerce will reach 52 billion USD<sup>1</sup>. Vietnam's prospects in the digital economy and e-commerce sector are huge. With a country with 70% of the population using the internet and nearly 50 million smartphone subscribers, Vietnam's retail e-commerce market is forecasted to increase by 300%, from 13 billion USD in 2021 to 39 billion USD in 2025<sup>2</sup>.

**Building E-government.** As low-middle income country in ASEAN, However, Vietnam has an E-Government Development Index (EGDI)<sup>3</sup> in 2020 of 0.6667 which is considered high on the United Nations ranking in the 2020 E-Government Survey. Online public service index (OSI) is 0.6529 and the Human Capital Index (HCI) is 0.6779. According to the World Bank, Vietnam's Human Capital Index is in the highly developed group, ranking 48th out of 157 countries and second in the ASEAN region after Singapore (2020).

In 2021, Vietnam issued its first e-government strategy towards digital government in the 2021-2025 period, with a vision to 2030. The first efforts in building e-government were made with the establishment of the e-Government Committee (2018) with the task of proposing strategies and policies to create a legal environment to promote the establishment of e-government. Vietnam is in the top 10 countries with a leap in the high e-government development index<sup>4</sup> and aims to become the top 4 countries in ASEAN on the e-government development index before 2025. Vision to 2030<sup>5</sup> that Vietnam would be ranked among the top 30 countries in the world in terms of e-government and digital government according to the United Nations ranking.

With fairly good telecommunications infrastructure and information technology, wide coverage, high user density (about 70% of the population uses the Internet) - ranked 13th out of 20 countries with the largest number of Internet users in the world. Vietnam is one of the countries with the highest digital technology development speed in the world. Currently, about 72% of the population is using smartphones, 70% of mobile subscribers are using 3G - 4G. Vietnam is accelerating plans to deploy 5G services that allow internet connections many times faster than 4G to keep up with world trends. Currently, Vietnam has begun testing 5G services and 5G-integrated

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2 Major trends in Vietnam's e-commerce market in 2022 - Federation of Business Information Service (febis.org)

3 EGDI (E-Government Development Index) is calculated based on the weighted average of three component indexes, namely: Online Services Index (OSI), Telecommunications Infrastructure Index (TII) and Human Capital Index (HCI).

4 United Nations. 2017. World population prospects: The 2017 revision. UN: New York, United States

5 According to Decision N 749/QĐ-TT of Prime Minister

smartphones. 5G technology will create a good infrastructure for connectivity following the trend of the internet of things, opening great business opportunities for Vietnamese businesses.

*The benefits of developing the digital economy.* Developing the digital economy is not only a new trend but also a new business model, opening up labor, employment and income opportunities for people, businesses and the country, contributing to improving life service quality. The digital economy helps to grow more sustainably by using new resources (digital resources and digital technology), dealing with environmental pollution problems more effectively. The development of the digital economy has brought about positive effects and efficiency improvements in the following channels:

*First, reduce transaction costs.* Transaction costs are clearly reduced in the fintech industry by adopting technology to improve financial operations. Financial transactions that used to require a visit to a bank branch can now be completed in seconds on a mobile phone.

*Second, reduce information asymmetry and make supply and demand activities more appropriate.* The ecological system established by technological activity provides rapid access to a large number of consumers. Data analytics reflect consumer preferences and target service delivery, helping to reduce information asymmetry and more relevant supply and demand operations.

*Third, improve production efficiency.* In the manufacturing sector, automation has led to shortened production cycle times, improved quality and reliability. Digitization reduces intermediary distribution layers, linking supply and demand directly through digital platforms, helping to increase productivity and improve production efficiency.

## **2. Challenges to Vietnam's digital economy development.**

Although there have been some successes in digital economy development, compared to the region and the world, Vietnam's achievements are still modest. To meet the goal of developing the digital economy to reach 20% of GDP by 2025, Vietnam's transition to a digital economy still faces many difficulties and challenges:

*Firstly, limited awareness of the social community.* Awareness of digital economy development at both the state management level, the enterprise level and the people's is not high. The knowledge of many officials, businesses and people about the digital economy, opportunities and challenges for development are not equal at all levels and sectors, that leading to needs, plans and actions to grasp the trend of the digital economy is not timely. Digital transformation is limited at a number of levels, sectors, localities and businesses. The annual Vietnam economic report released by the Institute for Economic and Policy Research (2019) has shown that up to 85% of Vietnamese industrial enterprises are still outside the digital economy and only 13% is at the beginning level. The awareness of the digital economy, the need and action to follow the trend of the digital economy is still slow, uneven, and unified from top to bottom, which are limitations that contribute to slowing down the trend of digitization of the Vietnamese economy.

*Secondly, the legal and institutional environment for digital economy development is incomplete and inconsistent.* Institutions for digital economy development are both lacking and full of holes, not tight and synchronous, untransparent and constructive. The rapid development of science and technology, the outbreak of the Covid-19 epidemic, the emergence of new business methods and innovative ideas make the management of digital economic activities quite confusing. Management and tax collection for online commerce activities, especially business through

social networks and providing cross-border services, issues of ensuring the rights of workers and consumers through the online world, the handling and settlement of disputes and conflicts of interest of subjects participating in business, commercial and civil activities in the digital environment.

The system of promulgated legal documents is inconsistent, overlapping, even contradictory, not suitable for the requirements of digital transformation and digital economy development. Lack of regulations on data transactions, database protection, personal data, private information, as well as creating trust in the digital space. Lack of regulations on personal rights when applying artificial intelligence. Regulations on digital identification and electronic authentication for citizens have been slowly promulgated.

*Thirdly, the infrastructure for digital transformation is still limited.* The digital transformation process is slow and lacks initiative because the infrastructure for digital transformation is still limited. Institutions and legal regulations for digital transformation and digital economic activities of Vietnam are assessed as slow to complete. The overall national strategy on developing the digital economy and digital society has not yet been issued. There is no legal corridor for piloting the application of new business models and services

Building databases and connecting data is difficult. Data connection is a difficult problem for Vietnam. Many ministries and branches build fragmented and distributed databases, lacking connectivity. In order for technology service platform models and digital technology service models to be implemented well and securely, it is very necessary to connect and share data from State agencies.

The cash-intensive economy is also a challenge and obstacle for the development of the digital economy. Cash is heavily used in e-commerce transactions showing a lack of trust and respect for each other and greatly reduces the possibility of successful connection of transactions.

*Fourthly, human resources have not yet met the requirements of converting to the digital economy.* The most important factor in the competition and development of the digital economy is human resources, especially information technology human resources. Information technology human resources are a key factor determining the success of the digital economy. Vietnam's information technology resources are few in quantity and not guaranteed in quality. While Vietnamese education has not kept up with the rapid development trend of the digital economy. E-commerce is a major contributor to the development of the digital economy, but human resources in this field require workers with both technology knowledge and commercial understanding to keep up with new trends, application in the most effective and safest way. However, these skills are all weaknesses of Vietnamese workers. Specialized skills in information technology that are difficult to recruit for e-commerce include skills in exploiting and using e-commerce applications, management skills, skills in planning, project implementation, and database administration skills.

Vietnam has about 900,000 information technology workers, including a large number of engineers in AI, IoT and data science. The number of people who have been granted certificates is high. However, despite the improvements, Vietnam's information technology human resources are still ranked on average in terms of quality, highly specialized labor and creative capacity in the digital economy when compared to the world. The rate of trained workers is only 60%, still a long way from the requirements of digital transformation. The shortage of information technology human resources in both quantity and quality is considered as one of the major challenges for the development of Vietnam's digital economy.

*Fifthly, the challenge of network security, information security.* The digital economy is based on information technology, the internet always contains great risks in terms of security, information safety, finance and privacy of data of entities participating in the digital economy. Vietnam is one of the countries that is frequently attacked and is also vulnerable to cyberattacks. Vietnam is in the top 3 countries with the most cyberattacks in the world with a total of 10,000 internet attacks, causing a loss of VND 12,300 billion (2018). The damage caused by computer viruses to Vietnamese users alone has reached 20,892 billion VND, equivalent to 902 million USD (2019). More than 1.8 million computers lost data due to the spread of ransomware, including many data servers, causing delays to many agencies. enterprise. Failure to ensure network security and information safety will hinder the goal of turning the digital economy into one of the main pillars of the economy.

### **3. Solutions to develop Vietnam's digital economy for Sustainable Development Goals**

In order for Vietnam's digital economy to thrive, reaching 30% of GDP (equal to the contribution of the processing and manufacturing industry), ranking in the top 50 countries in the world, 3rd in the ASEAN region and to meet the United Nations' Sustainable Development Goals in 2030, it is necessary to focus on synchronously implementing the following solutions:

*Firstly, renewing leadership thinking and economic management capacity.* The biggest barrier to digital transformation is not capital and technology, but the perception of leaders. Switching to a digital platform means transforming business models, transforming people. Among them, the transformation of people perception is the most important. Digital transformation creates a unified ecosystem with a close combination of people and technology systems. Therefore, digital transformation also needs to be accompanied by leadership capacity.

To successfully digitize the economy, the quality of the national governance apparatus is one of the key and decisive factors. It is necessary to propagate and raise social awareness about digital in order to best prepare and adapt to the trend of digital economy development. Realizing the right information about the nature and trends of digital economy development helps to seize opportunities as well as ensure international competitiveness in the digital economy. Each individual and leader needs to equip themselves and improve their skills in using digital technology to serve their future jobs and protect themselves against threats of online personal information theft.

*Secondly, improve institutions and create a legal framework to promote digital economy development.* Digital transformation and digital economic development are not a technological revolution but an institutional revolution. Institutions need to be one step ahead and be flexibly adjusted to accept new things: new technologies, new products, new services, new models. Only through innovation Vietnam can escape the middle-income trap.

Institutions and policies are the determining factors, not technology. Institutional and legal frameworks play an important role in the digitization process. Reasonable policies on copyright, intellectual property rights and liberalization of the scientific research market will create breakthroughs for Vietnam in the digital transformation process.

Building foundations and institutions for digital economic business models, including amending and supplementing legal regulations for industries that have many new business models such as e-commerce, digital finance, e-banking. Institutional reform to attract digital technology investments in the fields of venture capital in the direction of creating maximum facilitation for activities of capital contribution, share purchase, merger and acquisition of digital technology enterprises. Amending and supplementing the system of legal documents on information

technology and communication. Develop a management mechanism suitable to the digital business environment, adjust to new relationships arising in the process of digital transformation and development of the digital economy.

**Thirdly, invest in upgrading digital infrastructure.** Developing a comprehensive and synchronous national digital infrastructure system to meet the requirements of connection, storage and processing of data and information, functions of monitoring, ensuring network security and safety. Building and developing high-quality broadband infrastructure. Upgrade 4G mobile network, develop 5G mobile network to be able to keep up with world trends. 5G technology will create a good infrastructure for connectivity according to the trend of the Internet of Things, opening up many great business opportunities for Vietnamese businesses, especially small and medium enterprises (SMEs). Expanding domestic, regional and international Internet connections; converting the entire Vietnamese Internet network to the new generation of Internet protocol applications. Deploying sensor integration and digital technology application into transportation, electricity, water and urban management infrastructure systems. Building a synchronous and unified national digital payment infrastructure system to promote non-cash payments. Encourage all economic sectors with sufficient capacity to participate in building digital infrastructure. In the digital infrastructure strategy, Vietnam aims to rank Top 30 in the world by 2025<sup>1</sup>.

**Fourthly, focus on training information technology human resources for digital economic transformation.** Besides focusing on upgrading digital infrastructure, information technology human resources play a very important role. The information technology human resource training program should aim to accelerate the socialization of information technology education. Update information technology training curriculum in association with new technology trends such as Internet of Things (IoT), artificial intelligence (AI), robotics technology.

Develop human resources in the direction of enhancing accessibility, creative thinking and adaptability to the constantly changing and evolving technological environment. Researching training contents and methods in order to build human resources capable of receiving new production technology trends; focus on promoting training in science, technology, engineering and mathematics, foreign languages, informatics; develop training programs, re-train professional knowledge; provide flexible self-learning ability, suitable for each organization and individual, etc. There are policies to connect the domestic and foreign scientific and technological communities, especially with the Vietnamese community in another country.

**Fifthly, ensure network safety and security.** Vietnam ranks 25th out of 194 countries in terms of global cybersecurity and safety in 2020, up from 50th in the world (2018). Increase investment in modern infrastructure, bandwidth is wide enough to overcome attacks that cause network congestion, establish a backup storage machine system to redirect data before attacks and recover from attacks. Regularly review, detect and fix security holes throughout the system, add specialized equipment and software capable of checking and controlling security and information safety in the telecommunications network environment. internet, radio frequencies. Deploy and implement technical solutions to check and detect risks causing information insecurity. Ensure timely handling of insecurity risks and threats to information insecurity in Vietnam.

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1 Thủ tướng Chính phủ (2020), Quyết định số 749/QĐ-TTg ngày 03/6/2020 phê duyệt Chương trình Chuyển đổi số quốc gia đến năm 2025, định hướng đến năm 2030.

***Sixthly, strengthen international cooperation in digital technology and digital economy.***

Promoting international cooperation and effective application of digital technology is one of the important solutions, contributing to creating new driving force for economic growth and recovery, ensuring sustainable, inclusive and comprehensive development. Promoting cooperation in the field of digitalization is a factor contributing to building an environment of peace, stability, cooperation and development among countries.

Vietnam has participated in the development of many new rules on e-commerce in free trade agreements such as the Regional Comprehensive Economic Partnership Agreement (RCEP) in 2020 and the ASEAN - China Free Trade Agreement (ACFTA) in 2010. Vietnam cooperates with other countries to build an appropriate legal framework, helping the digital economy develop in the right direction, effective and harmony with the common interests of the whole society. Strengthen the connection of the science and technology community between countries and regions to improve digital skills. Taking advantage of commitments in FTAs that Vietnam has signed with partner countries to restore and expand export markets and attract investment.

**CONCLUSION**

Digital economy development is a trend and driving force for the global economy. Vietnam currently has 17 Free Trade Agreements with 60 partners (2021). Vietnam has a domestic market of nearly 100 million people, a young population accounting for a high proportion with 70% of the population using the Internet, having an innovative spirit and adapting quickly to digital technology. Vietnam is one of the countries with the highest digital technology development speed in the world. Vietnam's potential for digital economy development is huge. The scale of Vietnam's digital economy may even reach 43 billion USD in 2025 and will have the hottest growth in areas including e-commerce, online travel, online media and ride-hailing technology.

In order to develop the digital economy to help expand the market and promote consumption, Vietnam needs to take advantage of the opportunities of international integration, especially the new-generation free trade agreements that Vietnam has signed. such as the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), the EU-Vietnam Free Trade Agreement (EVFTA), the Regional Comprehensive Economic Partnership (RCEP) and Investment Protection Agreement (EVIPA). At the same time, focus on strongly developing fundamental fields of the digital economy such as digital infrastructure, digital resources, digital services, digital market and have a methodical strategy to access and master important and core technologies of the digital economy through policies to support, cooperate and attract foreign investment.

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# INSTITUTIONAL SOLUTIONS TO CREATE JOBS FOR INFORMAL LABORS IN VIETNAM POST-COVID-19 PANDEMIC

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**Abstract:** *The COVID-19 pandemic has seriously affected the informal workers in Vietnam. The income of informal workers is low due to precarious working conditions, limited opportunities to develop skills, often without labor contracts and social protection. The State's institutions include mechanisms and policies to deal with the unexpected impact of the Covid-19 Pandemic on the informal labor sector through solutions such as implementing support packages, perfecting laws and regulations related to employment in the informal economy, vocational training support...*

**Keywords:** *Institution to create jobs for informal workers, employment in the informal economics*

## 1. INTRODUCTION

In Vietnam, the COVID-19 Pandemic is a major economic and labor market shock, causing significant impacts on unemployment and underemployment rates for informal workers, the pandemic also has deprived workers of the opportunity to have formal employment, leaving some of them unable to find new jobs, while others have to switch to informal jobs.

The informal economy is a term used to refer to workers, activities, and businesses that are not supervised, regulated, or registered by the government. In developing countries, the informal economy is a much more common phenomenon, with more than 2 billion people, representing 60% of workers and 80% of enterprises (ILO, 2020). As a result, this component has limited or no access to assistance compared to developed countries. The most visible impacts of the COVID-19 crisis in developed countries in the informal economy include the unemployed, the self-employed, gigs, small-scale enterprises.

Too high a labor rate in the informal economy in any form causes disadvantages for workers, businesses, and society; At the same time, it is a big challenge to the effort to bring decent work to everyone. After the Covid 19 pandemic, in rural areas, the livelihoods of especially self-employed and salaried workers are at risk because the supply chains of agricultural products and markets are being disrupted due to restrictions on movement.

Regulations on mechanisms and policies as well as the support of the State play an important role in providing opportunities to create stable jobs for workers in the informal sector in Vietnam.

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## 2. LITERATURE REVIEW

### 2.1. The concept and role of labor in the informal economy

Concepts of informal economy and informal labor: The International Labor Organization (ILO) and the United Nations Statistical Office (UNSD) (1993) agreed to define the informal economic sector and informal labor as follows: The informal economic sector, which is understood in the most general way, is a collection of units that produce physical products and services with the main goal of creating jobs and income for workers. These units often operate with a small organization, the employment relationship is mainly based on casual labor, kinship, or personal relationships rather than contractual relationships with major guarantees”.

The ILO (2018a) argues that there is a distinction between employment in the informal sector and employment in the informal sector. The informal sector is defined based on the characteristics of the worker’s workplace, i.e., based on the organization or the enterprise. In contrast, informal employment is considered an employment-based concept, referring to workers’ work and related employment relationships and job protection.

According to the ILO, (2018a, p.11), employment in the informal economy combines “employment in the informal sector, informal employment outside the informal sector (i.e. employment in the informal sector), informality in the formal sector, and informal employment in the household”. This ILO’s definition emphasizes the role of state regulation in relation to the workplace as well as the employment relationship, i.e., rules and controls, forming the legal and permissible areas of employment.

Williams and Martinez (2014, p.2) argue that different terms are used to refer to activities that are considered parts of the “informal economy”, including “atypical”, “cash”, “hidden”, “irregular”, “unseen”, “shadow”, “undeclared”, “underground”, and “unregulated”.

Definitions often imply “shadow economy” activities that are not reported (to the tax authorities) or take place in the informal space; essentially, reflecting the dichotomy of “open” and “hidden” spaces, as in the formal/informal classification of registered/unregistered or legal/illegal activities.

Williams and Martinez (2014, p.2), define informal employment as “unregistered by/or concealed from the state for tax or benefit purposes”.

Williams and Horodnic (2016a, b) add that the definition of informal economic activities should distinguish between “legitimate” informal activities, i.e., those that would be legal in the official economy if appropriate regulations are followed and taxes are payable, etc.; and what would be “illegal” in the formal economy, such as criminal activities (e.g., forced labor and drug trafficking).

In Vietnam, the informal economy sector and informal employment were initially compiled by the General Statistics Office and used in the Labor - Employment surveys in the period 2007-2009. Accordingly, the informal economy in Vietnam is defined as “all unregistered private enterprises that produce at least some goods and services for sale or exchange, without a business license and engage in non-agricultural activities”.

The role of the informal economy:

The world economic crisis is increasing the role of the informal sector as many jobs are cut in the formal economic sector. Many studies show that the informal economy to some extent creates a safety net for the economy. That explains why the region often thrives during recessions or economic crises.

Some economists (Sacha Wunch-Vicent and Erika Kraemer-Mbula) focus on the performance of the small-scale individual economy, especially the household economy, in some developing countries. The results show that this area has produced many innovative initiatives, contributing to the development of the economy.

Charmes J. (2012) assesses the role of the informal sector through its contributions to the economy: Employment in the informal economy is revealed to be as high as 58–70% of informal employment in agriculture at the regional level (informal sector accounts for 50% to 80% of the informal economy) and the informal sector contributes to - agricultural GDP from 25% to 50%.

The informal sector plays an important role in absorbing the labor force and is seen as a source of livelihood for the poor. Enterprises in the informal sector benefit from cheap labor. Potential formal entrepreneurs have the opportunity to use this field as a testbed for entrepreneurial ventures.

Research on the role of individual business households and the informal sector in inclusive growth in Vietnam, the Vietnam Academy of Social Sciences and the French Institute for Development Studies commented: Region Individual business households and the informal sector contribute significantly to the economy with the creation of nearly one-third of non-agricultural GDP, 57% of non-farm jobs and 23% of total GDP in 2014.

## **2.2. Impact of the Covid 19 pandemic on informal workers**

According to Chen (2020), informal workers represent 61% of all workers globally — a total of 2 billion workers worldwide (ILO, 2018). Of these, an estimated 1.6 billion - 80% - will see their livelihoods destroyed due to lockdowns and restrictions related to shelter at home in response to COVID-19 (ILO, 2020).

The COVID-19 crisis highlights the fact that many frontline workers providing essential goods and services such as health care, food, child care, and transportation are employed informally. As a result, informal workers also face many injustices in the working process.

In many countries, such as the UK, the sectors of the economy most affected by COVID-19 are the low-wage sectors, and with a focus on women and those from other minority ethnic groups (Papoutsaki and Wilson, 2020). Many workers in these sectors are working in the informal sector and cannot receive the government financial support available to those working in the formal economy (Williams and Kayaoglu, 2020a; ITUC, 2020).

According to ILO, 2018a; Schneider et al., 2010, in developed countries, informal employment accounts for 18% of the workforce, but accounts for 61% of the global workforce. The pandemic is likely to affect people workers and job seekers with little social and employment protection, especially those in the informal labor market.

Sik, E. (1992) argues that the social impact of the informal economy is also different, increasing income inequality and regional disparity, and leading to social differences between countries and different classes of people.

Hung (2021) believes that the Covid-19 pandemic in 2020 has caused the economy to face many difficulties, businesses are forced to support with many measures, including measures to reduce labor such as cutting, rotating leave, recruiting seasonal workers, temporary workers to maintain operations. This causes the number of formal workers to decrease and the number of informal workers to increase, accordingly, the proportion of workers with informal employment in 2020 will increase again after many years of continuous decline.

### **2.3. The role of the State**

Garcia-Murillo, M. and Velez-Ospina, J.A. (2017) investigate the possibility that information and communication technology (ICT) can move people from the informal sector to the formal sector. ICT is a versatile technology that can provide people with information about education, employment opportunities, and government services that could potentially enable them to move into the formal sector.

Alter Chen and Martha (2005) argue that the relationship of the informal economy with the formal economy and with the formal legal environment. It begins by comparing the earlier concept of the “informal sector” with the newly expanded concept of the “informal economy” that includes micro-enterprises, private account operators, informal wage earners, and those working in the industrial sector. Therefore, (a) most informal enterprises and workers are intrinsically linked to formal enterprises; (b) various parts of the informal economy are over-controlled, unregulated, or under-regulated; and (c) there are benefits and costs to both formal and informal.

Hence, the role of government is to (i) ensure that the formal regulatory environment does not favor formal enterprises and workers over informal enterprises and workers (or vice versa) and (ii) regulate trade and employment relationships between formal firms and informal enterprises, informal wage workers.

Stephen Saunders and Elsabe Loots (2005) study the relationship between economic growth in the formal and informal sectors. Growth in the informal economy is also less efficient than in the formal economy. There seems to be a causal relationship that runs from the informal economy to the formal economy. Macroeconomic policies aimed at the formal sector will not necessarily trickle down to the informal sector, while those aimed at the informal sector may have an effect deeply on the formal economy.

J.I. Gershuny’s research shows that the informal economy consists of a diverse set of activities that can be divided into three categories: household, social and underground. This ultimately includes a wide range of things, such as from theft, to tax evasion. Government welfare and tax policies make the informal economy an increasingly important sector. Governments have three choices: they can ignore the informal economy, suppress it, or exploit it. However, exploiting the informal economy is necessary but this requires initiatives from the State.

### 3. RESEARCH METHODS

The article uses the following research methods:

- Systematic approach to search for articles on concepts in the world as well as in Vietnam.
- Qualitative method in analyzing and assessing the impacts of the Covid-19 pandemic on labor and employment in the informal sector in Vietnam.
- A meta-analysis method to show the role and relationship between employment in the formal sector and the informal sector, the issues raised as well as the goals set by Vietnam for issues related to employment and labor in the informal sector, providing policy suggestions to contribute to solving the difficulties faced by workers in the formal sector in Vietnam.

### 4. RESULTS AND DISCUSSION

In Vietnam, statistics on the size of the informal economy are different and inconsistent about its contributions. Reports of a number of international economic and financial organizations also show that Vietnam has a very large informal economic sector, if the value of the entire sector is calculated, it can increase GDP by about approx. 30%. The General Statistics Office (Ministry of Planning and Investment) also estimates that the size of the informal economy is about 30% of GDP.

In the period 2016-2019 before the outbreak of the Covid-19 epidemic, the average of formal workers increased by 5.6%/year, informal workers increased by 3.6%/year. The growth rate of formal labor is 1.6 times higher than that of informal workers, leading to a decrease in the rate of informal workers over the years.

#### **Characteristics of workers in Vietnam's informal sector**

Informal labor in Vietnam is concentrated in rural areas where there are many traditional craft villages and non-agricultural individual business households and cooperative groups, accounting for about 60% of informal workers.

According to geographical division, the densely populated areas are also the places where the most informal workers are concentrated, specifically: the Mekong River Delta; North Central, and Central Coast and Red River Delta. In contrast, regions such as the Northern Midlands and Mountains and the Central Highlands have a small population, laborers are mainly engaged in agriculture and forestry, and occupations are not diversified, so the proportion of informal workers is quite low. The capital Hanoi and Ho Chi Minh City are two big cities and also the two economic and political centers with the largest number of informal workers, accounting for over 20% of the total number of informal workers in the country.

The majority of informal workers work in 3 industry groups: "Manufacturing and processing industry"; "Construction" and the group "Wholesale and Retail; repair cars, motorbikes, motorbikes". The proportion of informal workers in these three sectors accounts for nearly 70% of the total number of informal workers. Next is the industry group "Accommodation and catering services" which also accounts for a large proportion with about 11%.

The proportion of informal workers compared to the total number of employees is high in the youth age group (ages 15-24) accounting for 60.2% and the age group 55 and older (74.4%).

The trained rate of informal workers is quite low 14.8%, 5.7% lower than the general rate of employed workers of the whole economy, and 17.4% lower than that of formal workers. Among non-agricultural workers without professional and technical qualifications, informal employment accounted for 71.9%.

In the context of the Covid 19 pandemic, in 2020, the number of employees with informal employment is 20.3 million, an increase of 119.1 thousand people, the number of employees with formal employment is 15.8 million, a decrease of 21.1 thousand people compared to 2019. The rate of workers with informal employment in 2020 is 56.2%, 0.2 percentage points higher than in 2019. The status of workers in the informal sector increase in 2020 in contrast to the decreasing trend of this rate in recent years.

According to the report on the socio-economic situation in 2020 of the Ministry of Planning and Investment, the rate of workers with informal employment outside of agricultural, forestry, and fishery households in the first quarter of 2020 was 55.3% and 55.8% in the second quarter of 2020; The third quarter of 2020 is 57% and the fourth quarter of 2020 is estimated at 56.2%. In general, in 2020, the proportion of workers with informal employment outside of households in agriculture, forestry, and fishery is estimated at 56.2%. This rate in urban areas alone in 2020 is 48.3% and in rural areas is 62.6% (56%, 47.8%, and 62.5% respectively in 2019). (Linh, 2021)

In general, the legal system regulating voluntary social insurance has been fully developed and detailed, creating an important legal framework for implementation. Over the years, many policy contents have been supplemented and revised (especially for voluntary social insurance) which has created favorable opportunities for workers in the formal and informal sectors to participate in social insurance.

As a result, the number of people participating in voluntary social insurance (including workers in the informal sector) has continuously increased over the years, from over 6,000 participants in 2008, at the end of April 2021, participation in voluntary social insurance reached 1.12 million people, an increase of 527,000 people compared to the same period in 2020.

The increase in the rate of workers in informal employment in 2020 contrasts with the decreasing trend of this rate in recent years. In the period 2016-2019 before the Covid-19 epidemic, the average of formal workers increased by 5.6%/year, informal workers by 3.6%/year. The growth rate of formal workers is 1.6 times higher than the growth rate of informal workers, leading to a decrease in the rate of informal workers over the years. However, the Covid-19 pandemic in 2020 has caused the economy to face many difficulties, businesses are forced to support with many measures including measures to reduce labor (cutting, rotating leave, etc.), recruiting seasonal workers, temporary workers to maintain operations. This leads to a decrease in the number of formal workers and an increase in the number of informal workers, leading to a rebound in the proportion of workers in informal employment in 2020 after many years of continuous decline.

The Covid pandemic has deprived workers of the opportunity to have a formal job, leaving some of them unable to find new jobs, while others have to switch to unstable informal jobs.

## 5. CONCLUSIONS AND RECOMMENDATIONS

Informal employment always exists as an objective fact. This happens in developing countries in the world and in the region, Vietnam is an economy in the process of developing a market economy, the level of labor market development is at an average level. Informal workers in Vietnam are facing challenges such as low income, limited opportunities to develop skills and often lack of labor contracts and social protection. The precarious working conditions make them more vulnerable to the severe economic crisis caused by the Covid 19 pandemic. In the informal economy, some solutions for the State's institutional reform are proposed:

- Acknowledging the informal sector in writing guidelines for the Labor Law 2019, the Employment Law, the revised Law on Social Insurance, the Law on Occupational Safety and Health, etc. to find out limitations and deficiencies in policies on the current informal employment issue in Vietnam; thereby making timely adjustments and supplements to promote the formalization of employment;

- Actively deploying specific support packages, diversifying forms of subsidies, expanding vocational training programs suitable for a wide range of subjects, especially female and unskilled workers, informal labor to stabilize social security, create motivation for employees to work, contribute to the process of economic recovery and development.

- For a stable society, the Government and the business community need to create a social security fund to ensure a minimum life for workers who lose their jobs. These policies not only maintain production activities but also improve labor productivity of the economy.

- Strengthening support for vocational skills training for workers, financial support, tax reduction for small, medium, and micro enterprises, as well as promoting the development of the voluntary social insurance program in the regional formal cost economy. Simultaneously, propaganda to raise awareness of the law for both employers and workers in the informal sector.

- Completing the law on simple and uniform business registration for all private enterprises and at the national level. Encourage the informal sector to transform and participate in formal economic activities, making a positive contribution to economic growth and improving social welfare. Create favorable conditions for the development of financial institutions and microfinance for the informal economy. Promote and support production linkages between the informal and formal sectors.

- Promulgate mechanisms and policies to support the informal economy to develop properly, gradually reduce the omission of tax obligations, increase state budget revenue, ensure social justice and minimize negatives in this area. Along with that, continue to improve the legal system, economic management mechanisms, and policies, in order to encourage individual production and business establishments in the informal economic sector to switch to the enterprise sector. ...

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# THE TREND OF REMOTE WORK IN THE POST-COVID-19 DIGITAL TRANSFORMATION ERA

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**Abstract:** *The Covid-19 pandemic that broke out in late 2019 has affected the whole world, including Vietnam. The Covid-19 pandemic also promotes the trend of remote work, which is based on the science and technology of the Industry 4.0 era. In fact, the remote work model brings benefits that many people have never thought of before. Although remote work in Vietnam has not developed as strongly as in many developed countries in the world, it is becoming a trend in Vietnam. The paper analyzes and evaluates the trend of remote work in Vietnam.*

**Keywords:** *Covid-19, Remote work, Digital transformation, Online, Technology 4.0*

The Covid-19 pandemic is not a positive factor, but the domestic and international social disturbances caused by Covid-19 are creating both new challenges and opportunities. The Covid-19 pandemic has caused many negative impacts but also brought new and clearer perspectives on development opportunities. For example, during the period of the Covid-19 epidemic and the implementation of social distancing, online meetings, learning and seminars were implemented at different scales and levels, showing that the potential of the internet has not been fully exploited so far. The National Assembly of Vietnam has pioneered online sessions; The United Nations General Assembly held an online meeting for the first time in its history on 6 June 2020 when the epidemic was still complicated and unpredictable, and the ASEAN Inter-Parliamentary Assembly held an online meeting in September 2020. In many schools at all levels, many domestic and foreign meetings were conducted online. This saves costs and reduces travel time for everyone. However, along with that, the institution also needs change to respond to that digital transformation process.

## 1. INTRODUCTION

### *Review*

There are quite a few research papers on remote working that analyze influencing factors and future trends, especially under the impact of the Covid-19 pandemic. In fact, remote working has been around for a long time and is a way of working, although it is not yet popular. Currently, there is a combination of working models between an office full-time workforce, a workforce that can both work at the office and work remotely and a workforce that works completely remotely

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(Minh Hoang, 2021). In the new economy, interaction has not decreased, but the way of interaction has changed. The pandemic has changed habits, transforming people's state of shopping and consumption from face-to-face to online. In Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam, the number of people entering the online consumer market has grown from 70 million in early 2020 (when the pandemic hit) to 350 million in late 2021, accounting for about 70% of the total population of these countries (Bain&Company, 2021). Digital transformation and technology increasingly better support remote working when 5G, AR/VR are more complete and popular. However, the lack of digital skills will be a significant barrier and need to be improved for the remote working of enterprises (Nguyen Khiem, 2022). The whole world is experiencing rapid changes in the application of information technology to economic and social operations. Remote working is not outside the digital transformation wave. The digital transformation increases competitiveness, faster adaptability and greater flexibility in the use of remote working spaces and locations (Bain&Company, 2021). In the context of the Covid-19 pandemic, it can be seen that the social distancing measures introduced in response to the pandemic have forced many people to work from home and promoted the trend of remote working (Niall McCarthy, 2021). The rapid development of online platforms such as Microsoft Team, Zoom or Google Meet, etc has promoted the trend of remote working for employees. The share of time working from home in the total working time of American workers increased from 5% before the COVID-19 pandemic to 60% at the end of the first quarter of 2020 (The Economist, 2021). Along with the development of the 4.0 technology revolution, through a computer device or a smartphone, it is also possible to monitor and solve tasks at home quickly, even if employees are not present in the office. Developed countries have long been advocating for businesses to allow employees to work remotely, now Vietnam is starting to adapt to this process (Nguyen Dung, 2021).

The general opinion is that in the process of digital transformation, along with the impact of the Covid-19 pandemic, remote working is becoming a trend in the world and is developing in Vietnam. So how is remote working in the world and Vietnam today, what are the benefits and challenges of this form of work? The question is what should be paid attention to in order to promote remote working in Vietnam.

### ***Research Methods***

The study mainly uses the method of document analysis, collecting information on remote working, digital transformation, and the Covid-19 pandemic in the world and in Vietnam. The study uses secondary data to analyze and assess the trend of remote working and its correlation with the digital transformation process in the world and in Vietnam, especially after the impact of the Covid-19 pandemic.

Comparative and synthetic methods are also used to identify changes before and after the outbreak of the Covid-19 pandemic. The study also compares the difference between the trend of remote working in Vietnam and other countries around the world.

### ***The contactless economy***

Perhaps Covid-19 is the decisive turning point for the rise of the so-called "contactless" economy, an unprecedented change to the environment as well as work habits. A 2020 survey by

the McKinsey Global Institute (MGI) showed that 75% of consumers using digital channels for the first time, from shopping and entertainment to online learning and working services, said that they would continue to use when the situation returns to normal (Huong Thuy & Nhu Mai, 2020).

In the new economy, interaction has not decreased, but the way of interaction has changed. The pandemic changes habits, transforming people's state of shopping and consumption from face-to-face to online. In Indonesia, Malaysia, the Philippines, Singapore, Thailand and Vietnam, the number of people entering the online consumer market has grown from 70 million people in early 2020 (when the pandemic just happened) to 350 million people in late 2021, accounting for about 70% of the total population of these countries (Bain&Company, 2021). Adapting to the requirements of social distancing, delivery services that deliver food and other essential goods to consumers have flourished. The size of the food delivery market in the world in early 2021 reached 150 billion USD, tripling compared to 2017. Particularly in major markets such as the United States, the United Kingdom, Canada and Australia, the market size in late 2020 and early 2021 has been expanded seven to eight times compared to 2018. (Kabir Ahuja, Vishwa Chandra, Victoria Lord, and Curtis Peens, 2021). Transactional methods such as Internet banking, mobile banking, e-wallets and cashless payment are now quite common. From the first quarter of 2020 to the first quarter of 2021, the total number of online transactions using cards globally has increased by 30%, of which more than 100 markets have a growth rate of over 50% (Mastercard, 2021). The above services and technologies have been created for a long time, but it is clear that people's tastes and habits, which were not easy to change in the past, have changed very quickly in the context of the outbreak of the Covid-19 epidemic.

The total value of the global contactless economy will double to 300 billion USD by 2024 (Li Yun, 2020). Data from McKinsey Global Research Institute showed that 56% of consumers surveyed around the world would continue to use online shopping services even after the epidemic situation has subsided. In Vietnam, the average growth rate of e-commerce in the period 2020-2025 is forecasted to reach 29% per year; and by 2025, the size of national e-commerce will reach 57 billion USD. Entertainment, education, healthcare and insurance services will have the largest market size; and financial, health and consumption services will have the strongest growth rate. With that boom, the activities of the contactless economy will impact employment and create a new face for the distribution of development space, resources and the way of managing socio-economic activities of the world and the region in general, and Vietnam in particular in the future.

The employees are encouraged to work from home and then send their documents or projects through the cloud service. Work efficiency and cost savings have led some companies like Twitter to even announce that employees can work from home forever. A variety of activities have also been moved to the online environment such as conferences, interviewing to recruit new employees, consulting customers, marketing and introducing products via live streaming.

Demand for online meeting tools such as Zoom and Slack has grown at an unprecedented rate, while the tools specialized more in traditional office work such as Microsoft 365 have seen increased demand. The common point is that these tools are all cloud-based. Market research firm, MarketsandMarkets showed that the cloud computing industry could reach an annual growth rate of 12.5% (Huong Thuy & Nhu Mai, 2020).

## 2. THE TREND OF REMOTE WORK

Before the pandemic happen in early 2020, remote work was not part of the standard regulations of agencies and businesses. Most people have to work together in the office and communicate directly with each other. Along with the pressures of environmental pollution, traffic congestion in movement and the implementation of social distancing during the epidemic, the rapid development of online platforms such as Microsoft Team, Zoom or Google Meet, etc has promoted the trend of remote work for workers.

The proportion of time working from home in the total working time of American workers increased from 5% before the Covid-19 pandemic to 60% at the end of the first quarter of 2020 (The Economist, 2021). In Europe, the share of workers working from home in the total workforce has increased from an average of 5% over the past decade to 12.3% after the Covid-19 pandemic happened. In some countries such as Finland, Luxembourg and Ireland, this percentage is now above 20% (Niall McCarthy, 2021). Revenue of Zoom, an application that supports working and studying from home has grown by triple digits (355%, 367% and 369%) in the second, third, and fourth quarters of 2020 compared to the same period in 2019. The app's revenue is forecast to reach 2 billion USD in the first half of 2022, 10 times more than the revenue achieved in the second half of 2019 when the pandemic has not yet broken out (Felix Richte, 2022). Similarly, Microsoft Team's 2020 revenue has reached 6.8 billion USD, an increase of 700% compared to 2019; The number of people using this application in the second quarter of 2021 reached 145 million people, a sevenfold increase compared to 2019 (David Curry, 2022).

This is not a temporary response, but it will be the long-term trend of the post-pandemic period. It is estimated that about 20-25% of the workforce of developed countries can work remotely 3-5 days per week and still ensure productivity. This is no exception for developing countries in the process of accelerating digital transformation.

The aforementioned trend is also promoted by the application of automation technologies in production, manufacturing, trading and service provision, etc. Robots are being used more and more in automated production lines or in service industries such as retail, restaurants, hotels, healthcare and public services, etc. In 2021, a new record was set for the total number of industrial robots working in factories and workshops globally (3 million robots, an increase of 10% compared to the same period in 2019). The market for the supply of service robots also achieved rapid growth, over 12% in 2020 with sales of 6.7 billion USD (International Federation of Robotics, 2021a). In the new economy, robots are increasingly promoting their advantages in the services such as freight forwarding, restaurants, hotels and tourism when minimizing person-to-person contact.

The world economy is also entering servitization very quickly and accompanied by service digitization. Technology 4.0 and digital transformation directly promote various service industries, forming many connection services and new service industries. Even in developing countries, under the influence of digital transformation and automation, in which the share of the manufacturing industry that is the backbone of traditional industrialization in GDP and the share of blue-collar workers in the labor market is often associated with the requirement for in-person work, there is a downward trend to make room for high-value services and white-collar workers who can work remotely thanks to being equipped with modern skills of the 21st century.

The remote work model is highly effective for skilled workers who are connected online. For many other jobs, we are seeing different forms of flexible combination, for example, workers only work in person 1-2 days a week and work from home for the rest of the week. Responding to the transformation of work organization methods during the pandemic, many agencies, organizations and businesses that once be passive and confused have now realized the advantages and disadvantages of a new working model, with more experience in management and operation through technology platforms. At the national and international level, working remotely and flexibly is also a way to make the most of talent and intelligence when these valuable resources can be effectively shared in the socio-economic system, helping each individual maximize the advantages of scale for their knowledge and skills.

Remote working has many benefits because it is flexible working which is completely different from the traditional working model. This form of human resource management has many ways to allow all employees to be flexible between working in the office and remote work on certain days of the week; or allow employees to choose 1 of 2: fully remote work or fully in-office work; or allow certain employees to be flexible in working from home and at the company.

A survey by Wakefield Research for the employees in the United States before returning to the office showed that 66% were worried about their health and safety when returning to the workplace, and the employees under 25 years old are even more concerned (75%). From that mentality, nearly half of employees (47%) are likely to find a new job if the company does not adopt a flexible working model. In fact, this working model has many positive points that attract employees.

*Be proactive in the time and methods that they find most effective*

According to the traditional office model, the employees must work exactly according to office hours (for example, 8:30 am - 5:30 pm). While according to the flexible working model, the employees can choose the time on their own initiative when they find it most effective to complete the work. Some people work most effectively in the early morning while others do better in the evening. Teams can work together at the office or choose a more convenient location.

*Better work-life balance*

A recent survey by Slack Technologies found that flexibility was the main reason why the employees loved this new working model. When the work arrangement is more flexible, the ability for work-life balance is also easier. The obvious benefit is that they spend less time and money on going to the office. They can take the time to take care of their personal lives, whether they run errands, pick up children from nursery school, or attend a professional event.

*Reduce the possibility of disease transmission*

41% of employees in a survey by Wakefield Research said they would be willing to receive a lower salary if the company offering flexible work. One of the reasons is that the fewer people in the office, the lower the risk that an employee with Covid-19 can infect others. With this model, employees with mild illnesses can still work from home full-time.

### *Save on office rental costs*

Once the flexible working model is fully established, the number of employees gathered in the office at the same time will be reduced. This means that the company can consider reducing expensive real estate costs. Even strategically adopting a flexible working model can reduce real estate costs by 30%.

### *Global talent recruiting*

With a flexible working model, the company can hire people with deep and diverse professional skills from all regions, even from other countries. This can provide a competitive advantage, help the businesses enter new markets and ensure continued productivity. Employees in the local office can also learn more about international customers from colleagues abroad.

### *Employees' productivity remains stable*

Office workers inherently have advantages over other types of personnel in using computers and the internet to ensure productivity. It's also noteworthy that despite the pandemic disruption, remote workers still have better indicators than in-office ones, according to a Slack survey: 61% are satisfied with their completed workload (compared to 53% of in-office workers); 62% feel that they can manage their workload (compared to 51%); Only 27% feel exhausted from work (compared to 33%).

Not only is it a subjective feeling of employees, but the results are also satisfactory: Employees who have a flexible workplace have 43% higher productivity scores than employees working in the office. Employees having flexible working time have 53% higher productivity scores than employees working during office hours.

Of course, businesses decide to adopt a flexible working model when they have prepared and invested in online tools and processes. On the other hand, although 67% of senior leaders are satisfied with their weekly performance, only 57% of middle managers are satisfied. In addition to middle managers having limited vision due to small team management, they also wonder about the ability to connect team members. Meanwhile, large team managers only care about efficiency and progress to reach the goals (Vietnamnet, 2021).

## **3. REMOTE WORK IN VIETNAM**

As the economy in Vietnam is entering the "new normal" trend after being affected by the Covid-19 pandemic for a long time, the leaders have been gradually transforming business management methods to cope with all post-pandemic scenarios in a bad direction in the future. Based on the development foundation of Industry 4.0, remote work culture is gradually becoming the leading formula in the new way of business management, because the result of this formula produces a series of results that exceed all leaders' expectations.

According to PwC Vietnam (a member of PwC - the world's leading audit and consulting firm), remote work is the inevitable trend of the future. A PwC global survey on "The future of remote work" found that 80% of companies believed adopting this form of work was the new labor market norm. A follow-up survey by PwC Vietnam conducted in August 2021 showed that:

19% of respondents wanted to be fully remote even when the Covid-19 pandemic is no longer a concern; 22% of respondents said they would like to be mostly in the office (remote work 1 day or less per week) and 33% of respondents expect a mixed model between some working full-time at the office, some hybrid and some fully remote (Minh Hoang, 2021).

This is the opportunity for a new era that focuses on mixed working models and new ways of working. However, that doesn't mean the employees can just stay home and the businesses can run well immediately. The change in the work environment can bring many problems related to interaction, productivity, salary and bonus, welfare, etc.

### ***Challenges of remote work***

The reality is that remote work is not yet popular with Vietnamese people. Along with the development of the Fourth Industrial Revolution, through a computer device or a smartphone, employees can monitor and solve tasks at home quickly, even though they are not present in the office.

Developed countries have long campaigned for businesses to allow employees to work remotely. Japan is a prime example when it encouraged people to work from home to reduce traffic and established a new working style in 2017. They found that working days became extremely leisure, they did not have to jostle to get to the company on time, many Japanese also said that the trains were emptier than usual.

For many multinational companies, it is common to connect and work regularly with foreign markets, or their employees can choose to work remotely in another country, relying on the help of modern technology platforms that are being upgraded every day.

In Vietnam, with a number of new careers such as developer (software engineer), market research and analysis, and freelancer, many young people gradually choose remote work. However, these are mostly particular jobs. The concept of working without going to the office is still quite strange to the Vietnamese.

Since early 2020, the outbreak of the Covid-19 pandemic has extended, which has made businesses around the world shift from a co-working model in the office to working from home, also known as remote work, in order to solve some existing problems and promote the application of information technology. Vietnam has begun to shift from in-person work to remote work according to each stage of the development of the Covid-19 epidemic in society. While some countries are already familiar with this way of working, Vietnam is beginning to adapt.

Many employees who work remotely said that they could overcome the fear of being perceived as unproductive by the company's members and managers if their companies invested heavily in collaborative technology. Remote work is seen as a challenge in an unprepared social context. However, from a positive perspective, this is also an opportunity for the Vietnamese to optimize the application of technology in work and build a new working style.

For the employers, letting the employees work remotely can save space rental costs, but it still poses many challenges to the way of operating the business, causing difficulties in managing and building corporate culture, besides connecting and creating motivation for dedication.

Some large enterprises in the world have started the trend of permanent remote working, but the domestic companies have not yet made many concrete moves or expressed support. Whether this wave will change the working style in Vietnam is still a question, because this decision depends a lot on the nature and performance of actual work, which is based on the change in the quality of future labor market and working tools from modern technology.

A lack of digital skills is a major barrier to remote work. As for remote work, the lack of digital skills is also a barrier for Vietnamese businesses. For example, if all employees and managers are not proficient in digital tools, planning software, and brainstorming software at the same level, they cannot work effectively. In fact, in some organizations, when working remotely, Zalo is used as a digital office to share and exchange all work and documents. This also limits work efficiency because Zalo is not designed to support planning and brainstorming ideas.

Technology is not the main problem, but the problem is people's attitudes and inertia when they are forced to switch to using technology for work. It is very normal for the emergence of many technologies and the market will eliminate all kinds of useless tools. Whichever technology is used by more people and organizations, which means creating a network effect will gain an advantage. Whichever technology creates the best, most friendly user experience with devices and pay-as-you-go costs will prevail.

To overcome these barriers, businesses need to apply sanctions for using technology for work. Besides, in the current "new normal" period, the businesses should still maintain remote work with an appropriate amount. Some big tech companies in the world even maintain a near-permanent level of remote work.

Technology will increasingly better support remote work when 5G, AR / VR are more complete and popular. There is now a start of remote work at a higher level, that is, virtual work environments, virtual experience spaces combined with gamification (such as gather. town tool (web-based virtual space) being used by quite a few universities and technology companies).

Because the change will come very quickly, the businesses need to review the entire working process, considering which stages in a process can switch to remote work, and which stages must work in person. Next, they need to look for all-in-one solutions for remote work such as Microsoft Team, Zoho, or equivalent Make in Vietnam solutions. Along with that, human resource policies also need to change accordingly such as timekeeping, evaluation, salary and bonus.

#### **4. THE SOLUTIONS TO IMPROVE THE EFFICIENCY OF REMOTE WORK IN VIETNAM**

The Covid-19 pandemic has made a huge change in the working trends and management methods of agencies and businesses in Vietnam. Instead of choosing the traditional form of work such as suspending operations, working and living on the spot, agencies and businesses have been gradually approaching a new management method, remote work. This is really a reasonable and timely solution in the epidemic context. However, it is followed by inevitable disadvantages such as the lack of concentration and self-motivation of employees in their work, a decrease in discipline and professionalism, or communication barriers within agencies and businesses. To overcome these weaknesses, it is necessary to implement the following measures.

First, change the perception of remote work. The employees need to be aware of “working from home like at the office”, ensuring the quality and quantity of work. This requires a sense of responsibility, a progressive and positive attitude, and ensuring that the working style is maintained at the company, not doing private work, getting the job done, but not out of time.

Second, ensure technical conditions for workers to work remotely. Digital transformation contributes to perfecting conditions so that agencies and businesses can operate remotely effectively. Specifically, there are the following measures.

Use cloud data, helping employees and managers access data to work anywhere.

Connect shared data between departments, automating the working process, which makes data inheritance and process review faster and more accurate

Meet the expertise of each department with its own software/applications/administration platform. For example The accounting department can use online accounting software, and the human resource department can use HRM software.

The overall remote business management platform helps the managers obtain all work situations and personnel changes remotely.

## 5. CONCLUSION

The Covid-19 pandemic has fundamentally changed the world that mankind has known, with the development of new trends such as the “contactless” economy. People’s lifestyles, ways of working, and even habits or ways of shopping, consumption or entertainment are undergoing major changes to adapt to the “new normal” period. The trend of remote work has appeared before, but it has now become an appropriate model in a new context in many countries, including Vietnam. To make this form of work more effective, it is necessary to change employees’ awareness as well as take synchronous measures on the basis of digital transformation to improve the quality of work.

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# ASSESSMENT ENFORCEMENT OF LAND USE PLANNING IN HANOI CITY FOR THE PERIOD OF 2011-2020

MBA. Vu Ky Long<sup>1</sup>

**Abstract:** *Land use planning is of a pivotal role in generating necessary territorial conditions for highly efficient land use. A thorough analysis and evaluation of the results of the application of the allocation criteria of the prior land use planning are one of the crucial and essential tasks of planners and managers who have to identify the strengths and weaknesses as a basis for proposing solutions to improve the feasibility of land use planning in order to build the land use planning that is suitable to reality and ensures its feasibility. As the national capital and heart of the country, the enforcement of Hanoi land use planning is crucial. In this article, the author will analyze the results of the enforcement of Hanoi land use planning in the period of 2011 - 2020 to propose assessments and recommendations for this subject matter.*

**Keywords:** *Land use planning/ Hanoi city/ results of Hanoi planning enforcement*

## 1. INTRODUCTION

Land is a valuable resource of any nation, an indispensable and irreplaceable special means of production, a foundation for population distribution, the construction of socioeconomic systems, etc. Land, on the other hand, is a resource with a finite amount and fixed location that cannot be relocated at the whim of humans. Therefore, every locality is concerned with making good use of land resources to attain high efficiency. Land use planning is crucial for ensuring that it is used effectively while also preventing the situations of extensive and wasteful land allocation, leasing, and changes in the purpose of land.

Meanwhile, as the national capital, Hanoi city occupies a significant geographical, economic and political position, it is the capital, the national political-administrative center, the heart of the country, a key hub for the economy, culture, education and training, research and technology, and international integration.<sup>2</sup> Therefore, the enforcement of land use planning in Hanoi city is especially important. In this article, the author will analyze the results of the enforcement Hanoi land use planning in the period of 2011 - 2020 to propose assessments and recommendations for this subject matter.

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2 Resolution No. 15-NQ/TW dated May 5, 2022 of the Politburo on orientations and tasks to develop Hanoi Capital to 2030, with a vision to 2045.

## **2. GENERAL OVERVIEW OF LAND USE PLANNING**

### **2.1. Concept of land use planning**

Land use planning is the scientific foundation for land management, a crucial legal basis for the State to manage changes to the land, and it reflects the approach required for land use and management. Currently, there are different interpretations of land use planning.

Author Nguyen Dinh Bong stated that: “Planning” is the determination of a certain order by activities such as distribution, arrangement, layout, organization... “Land” means a certain part of a territory (land, parcel of land, land plot, piece of land...) having a position, shape, and area with natural or newly formed properties (characteristics of soil, topography, geology, hydrology, water regime, temperature, light, vegetation...) that create certain conditions for different purpose of use (Nguyen Dinh Bong, 2006). Professor Nguyen Lan said that “planning” is the specific planning to be carried out to achieve the best results (Nguyen Lan, 2006). Author Vo Tu Can offers a different interpretation of land use planning: Land use planning is a system of economic, technical, and legal measures of the State on the organization of adequate and rational, scientific, and highly effective land use and management through allocating (targeting to purposes and sectors) and organizing land use as a means of production (specific use solutions), in order to increase the production efficiency of the society, and facilitate the protection of land, and so on (Vu To Can, 2008).

Meanwhile, the 2013 Land Law stipulates: Land use planning means the distribution and zoning of land by use space to serve of the objectives of socio-economic development, national defense, security, environmental protection, and climate change adaptation based on the land potential and land use demands of all sectors and fields, for each socio-economic region and administrative unit in a defined time (National Assembly, 2013).

We can therefore conclude from the aforementioned interpretations that land use planning is the calculation and allocation of specific land in terms of quantity and quality, location, space, etc., for socio-economic objectives. It ensures the most efficient land use in line with the conditions of land, climate, soil, and each production industry. Land planning is always associated with land use plans. Because land use plans are the determination of measures and time of land use as planned.

### **2.2. Meaning of land use planning**

In the State’s planning system, land use planning is of pivotal role; therefore, the planning of land use is of great significance to the socio-economic development of the country. Land use planning is put into action to organize efficient land use based on the ecological, socioeconomic, and development orientation of each locality. Therefore, legal stability is set for the state management of land, and serves as a foundation for land allocation and investment to develop production, ensure food security and serve the needs of people.

Land use planning is an effective measure of the State to synchronize land management. Land use planning is a strategic orientation for land management and use in the future. It contributes to the assurance of land use for the right purpose, limiting the overlap that causes waste of land, avoiding arbitrary changes of purpose, and seriously reducing the agricultural and forestry land fund. It prevents negative phenomena, disputes, encroachment, destruction of land, disrupting

ecological balance, causing environmental pollution that leads to losses or suppresses production and socio-economic development.

### **2.3. Regulations on land use planning**

Regulations on land use planning are prescribed in chapter 4 (including 17 articles) of Land Law 2013. Land Law 2013 has clear regulations on Principles, systems, legal grounds, contents, responsibilities for organizing, appraising, approving, announcing, and enforcing land use planning. However, the National Assembly published Law No. 35/2018/QH14 on revising and supplementing a number of articles of 37 Laws connected to land use planning in 2018 to satisfy the society's requirements for land use planning. One of the highlights of this amendment is that Law No. 35/2018 stipulates a plan for land allocation and zoning by functional area and land type to each district-level administrative unit in the provincial planning (Clause 1, Article 6). In other words, provincial People's Committees make a plan for land allocation and zoning according to functional areas and types of land to each district-level administrative unit for integration into the provincial planning, rather than developing a separated land use planning.

### **2.4. Requirements for land use planning**

In order to the effective enforcement of land use planning in practice, land use planning shall meet the following fundamental criteria:

Firstly, land use planning shall ensure the principle of sustainable development

What is the principle of sustainable development in land use planning? That is, the zoning of land areas for industrial development, tourism development, socio-cultural development, and agricultural development shall balance needs and integrate environmental protection factors, limit local interests, and group interests to ensure social justice. We would prioritize and protect the agricultural land fund in particular to help ensure national food security while preserving the environment.

Secondly, land use planning shall ensure consistency and synchronization

In land use planning, the consistency and synchronization are reflected in the following factors: First of all, the formulation and enforcement of land use planning shall be based on the master plan for economic development - society; and shall not overlap or conflict with other plans such as environmental protection planning, urban construction planning, etc. In addition, upon formulating land use planning, it is also necessary to ensure consistency and synchronization from the central to local levels, specifically: the lower-level planning shall be consistent with the higher-level planning, and the higher-level planning shall be developed based on lower-level land use needs.

Thirdly, on the basis of factors of natural, economic, cultural, and social characteristics of each locality, competent state authorities shall develop stable, long-term, and efficient land use planning.

It can be seen that, in each locality, there will be different natural, economic and social conditions; therefore, upon the enforcement of land use planning, planners shall take into account the differences among localities to develop the most reasonable land use plan ensuring the efficiency and feasibility of land use planning. A significant amount of time, money, and human capital is required for the development of a land use plan. It will be a waste if a land use plan is not executed

properly in practice and for a long time to promote sustainable socio-economic development.

### **2.5. Overview of some studies related to the enforcement of land use planning**

There are many different studies related to land use planning, such as the study of Chu Van Think et al in 2020 studying a number of theoretical and practical issues on land use planning in Vietnam and some countries around the world; Nha's research in 2017 highlights the impacts of land use planning on socio-economic development; The study of Ton That Loc et al in 2019 studied the application of optimal mathematical models in land use planning; The study of Phan Thi Thanh Huyen et al in 2022 evaluates the results of implementing land use planning of Hong Linh town, Ha Tinh province in the period 2011-2020.

Most of the studies have not researched in depth the enforcement of land use planning, only the study of Phan Thi Thanh Huyen et al in 2022 initially assessed the enforcement of land use planning, but did not clearly indicate the extent of the impact of the group of factors on the enforcement of land use planning, not to mention the evaluation according to any criteria at the provincial level. Therefore, the evaluation of the enforcement of the land use planning aims to solve this problem, specifically pointing out the achievements, shortcomings, and limitations based on the analysis and evaluation of the results of the enforcement of a number of targets, then proposes a number of solutions to enhance the effectiveness of the enforcement of land use planning.

The study focuses on the results of the enforcement of the land use planning in Hanoi for the period of 2011-2020. Data is collected from specialized departments and units in Hanoi city and Hanoi Department of Natural Resources and Environment to serve the analysis and assessment of the achievements and shortcomings, limitations.

### **3. RESULTS OF ENFORCEMENT OF THE LAND USE PLANNING IN HANOI CITY FOR THE PERIOD OF 2011 - 2020**

The land use planning up to 2020 and the first five-year land use plan (2011-2015) of Hanoi city were approved in Resolution No. 06/NQ-CP dated January 9, 2013, of the Government; Resolution No. 65/NQ – CP dated May 25, 2018, of the Government on Adjustments of the land use planning to 2020 and the last land use plan (2016-2020) of Hanoi city.

According to the report of Hanoi People's Committee, the results of enforcement of land use planning in the period of 2011-2020 in Hanoi city are as follows:<sup>1</sup>

- Agricultural land up to 2020 according to allocation (in Decision No.695/QD-UBND) is 152,242 ha, and 198,004 ha for enforcement effective to December 31, 2020. Including:

+ The area of rice cultivation to December 31, 2020, is 100,899.98 ha, 9.53% higher than the allocation indicator. Specifically, the area of land for rice cultivation is also 2.43% higher than the allocation indicator.

+ The total area of three types of forests by 2020 is 20,307.87 ha, 6,399.06 ha lower than the allocation area. Specifically, the area of production forest land is higher (equivalent to 137%)

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<sup>1</sup> Hanoi People's Committee, Report No. 126/BC – UBND on the results of enforcement of the land use planning for the period of 2011 - 2020 and recommendations for land use needs in the period of 2021 - 2030 of Hanoi city dated May 15, 2021.

compared to the allocation area, but the area of special-use and protection forests is lower, due to the adjustment and re-planning of the area of three types of forests.

- Non-agricultural land by 2020 is 135,286.60 ha, lower (reaching 75.7%) than the allocation area. Including:

+ Land types: national defense, security, industrial parks, industrial clusters with an area up to 2020 all lower than the allocation indicator; the highest rate is security land with 62.5%; and the lowest rate is industrial cluster land with 25.6%.

+ Land for infrastructure development at national, provincial, district, and commune levels by 2020 is 46,665.2 ha, accounting for 70% of the allocation area. Specifically, land for physical training and sports facilities reached the highest rate with 91.72%.

- Unused land by 2020 is 2,692.8 ha, 881.8 ha (48.69%) higher than the allocated area.

- The results of enforcement of approved land use targets are as follows:

+ Agricultural land: approved to reduce 36,123 ha, reduced by 6,114 ha, the remaining target is reduced by 30,009 ha.

+ Non-agricultural land: approved to increase 43,643 ha, 7,469 ha has been increased, the remaining target is increased by 36,175 ha.

+ Unused land has been approved to reduce 7,520 ha, has been reduced by 1,354 ha, the remaining target needs to be further reduced by 6,166 ha.

- The rate of conversion of agricultural land to non-agricultural land is low. The area of agricultural land converted to non-agricultural land is 8,450 ha, equal to 19.62% of the planning indicator. Changes in the structure of land use within agricultural land: the total area is 10,570 ha (the area of rice cultivation land is converted to land for perennial crops and aquaculture is relatively large). Non-agricultural land that is not residential land converted to residential land is 503.6 ha.

#### **4. ASSESSMENTS AND RECOMMENDATIONS FOR THE ENFORCEMENT OF LAND USE PLANNING IN HANOI CITY FOR THE PERIOD OF 2011 - 2020**

##### **4.1. Assessments**

###### *a. Achievements:*

Through the results of enforcement of land use planning in Hanoi city for the period of 2011-2020, it can be concluded that Hanoi city has achieved certain results in the enforcement of land use planning and met the requirements of socio-economic development, specifically:

**Firstly**, the enforcement of land use planning is promoted; the management and use of land in Hanoi city is becoming more and more stringent and efficient as a result of improvements in natural resources and the growth of urban and rural infrastructure, satisfying the requirements for the military, security, and socioeconomic growth of the Capital.

**Secondly**, the enforcement of land use planning ensuring consistency at all levels serves as the basis for the enforcement of land allocation, lease, recovery, permission to change use purpose,

thereby limiting unplanned land use and arbitrarily changes in land use purposes, especially from rice cultivation to non-agricultural purposes.

**Thirdly**, the enforcement of land use planning has shown positive effects, contributing to more rational and economical use and allocation of land resources while also fostering societal stability and socio-economic growth.

*b. Shortcomings*

Along with the aforementioned achievements, the enforcement of land use planning in Hanoi for the period of 2011-2020 still has the following shortcomings:

**Firstly**, the land use demand projection does not accurately reflect the actual situation of Hanoi. Through the results of the enforcement of the land use planning mentioned in Part 3, it can be seen that: there have been issues with the enforcement of land use planning, leading to the exceeding of a number of land use indicators (for agricultural land, rice cultivation land), other indicators (for non-agricultural land and forest land) are still low in comparison to the approved planning indicators.

**Secondly**, traffic bottlenecks and flooding are caused by the imbalance of socioeconomic and urban infrastructure, which has not been adequately addressed (some places in the city also have large-scale flooding, making it difficult for transportation and causing frustrations to people). In addition, the allocation of the network of schools, medical facilities, industrial parks, and clusters is unreasonable, and new urban areas have not yet been linked.

**Thirdly**, the enforcement of the City's planning is still slow compared to the time limit of the planning term; one of the reasons for such delay is that the compensation policy for people whose land is recovered has shown shortcomings, specifically the land price list to be applied in land recovery is not consistent with the market price, leading to difficulties in compensation and site clearance, slowing down the implementation progress of certain works and projects. In some cases, it even makes land use planning less feasible.

*c. The cause of shortcomings*

Firstly, the implementation of planning and adjustment of land use planning of the City and the districts has been done on time as prescribed but must wait for the allocation of national land use planning targets.

Secondly, many land policies change, there is a transition between laws, which should affect land management.

Thirdly, some regulations on investment, construction, and land have the overlapping and transitioning through many laws, so the preparation for investment often takes longer than expected, leading to a number of projects being delayed.

Fourthly, enforcement of the general planning of the capital until 2030 with a vision to 2050, many projects are waiting for planning adjustment according to the general planning, zoning planning, detailed planning.

## 4.2. Recommendations

In order to the enforcement of land use planning in the future to be more effective, Hanoi city needs to implement the following measures:

*Firstly*, clearly and accurately identify the demand for land use on the basis of sufficient information collection and actual survey, consult experts and scientists in the field of planning to grasp the development trend of each industry and sector for more accurate land use allocation indicators. At the same time, it is necessary to develop a detailed plan of the city's rice cultivation land and inform the localities to delineate the area of rice cultivation land and avoid violations in the conversion of land purposes. Thereby, it is possible to protect the area of rice cultivation and form specialized production areas or hi-tech agricultural zones.

*Secondly*, fully implement the compensation, support, and resettlement policies and ensure the schedule in land acquisition and site clearance for the enforcement of works and projects as planned. Complete the policy on land valuation, especially determine the specific land price for compensation and site clearance.

*Thirdly*, prioritize to allocate funds to focus on implementing key projects in the field of key technical infrastructures such as traffic, irrigation, electricity, clean water supply, and other works in the field of social infrastructure such as schools, cultural houses, physical training, and sports facilities, etc., at the same time balance the land fund to meet the needs of constructing urban areas, industrial parks, services, etc., not to arrange urban areas, rural residential areas and industrial parks close to highways and national highways. On the other hand, upon enforcement of land use planning as the ground for production, business, industry, services, transportation system, etc., it is necessary to strengthen the direction of exploiting the surface and underground space.

*Fourthly*, the management and enforcement of land use planning is a decisive step to realize the development intention. Therefore, the professionalization and standardization of planning formulation and approval contribute to enhancing the consistency and quality of planning, calculation of the socio-economic efficiency of the planning will increase the feasibility of the objectives, strict inspection, and supervision of the organization and enforcement of the planning shall be carried out while enhancing the strictness of law provisions, and building comprehensive and synchronous planning management.

## 5. CONCLUSION

Land use planning is essential for creating territorial conditions for highly effective land use. The results of enforcement of land use planning for the period of 2011 - 2020 demonstrate that the enforcement of land use planning in Hanoi city has been promoted; the management of land use planning ensures consistency at all levels, thereby limiting the situation of unplanned land use and arbitrary changes in land use purposes, actively contributing to the rational, economical and efficient use and allocation of land resources. However, the land use demand projection does not accurately reflect the actual situation of Hanoi city, the allocation of the network of schools, medical facilities, industrial parks, and clusters is unreasonable, and new urban areas have not yet been linked, and the enforcement of the City's planning is still slow compared to the time limit of



the planning term

The goal of planners and managers is to identify, analyze and assess fully and accurately achievements, shortcomings, and limitations from the results of the enforcement of allocation indicators of the land use planning in previous periods as well as propose solutions to enhance the feasibility of the land use planning in the coming period such as: clearly and accurately determining the land use demand based on the basis of sufficient information collection and actual survey; perfecting policies on land price determination; prioritization of the allocation of funds to focus on implementing key projects in the field of core technical infrastructure; professionalization and standardization of planning formulation and approval to contribute to improving the consistency and quality of planning. ***The enforcement of the aforementioned solutions will contribute to the development of land use planning in the next period that is more realistic and highly effective, especially for Hanoi city - the Capital of the country.***

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# OPPORTUNITIES AND CHALLENGES FOR VIETNAM'S EXPORT WHEN JOINING VIETNAM - EURASIAN ECONOMIC UNION FREE TRADE AGREEMENT

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**Abstract:** *Trade agreements are a manifestation of trade liberalization, which help a country promote bilateral and multilateral trade in goods. Joining free trade agreements not only opens up new opportunities for participating countries but also brings challenges that require solutions in order to integrate quickly and effectively into the global economy. The paper clarifies the opportunities as well as challenges for the export of Vietnamese goods when the country joins Vietnam - Eurasian Economic Union Free Trade Agreement; while giving an overall picture of Vietnam's exports to the EAEU market after signing the free trade agreement. The paper then proposes some recommendations to help Vietnam take advantage of opportunities and overcome challenges so as to penetrate deeper into the Eurasian Economic Union market.*

**Keywords:** *FTA, Vietnam – EAEU FTA, international trade, EAEU*

## 1. INTRODUCTION

International trade theories show that trade liberalization benefits countries (Ricardo, 1817; Heckscher & Ohlin, 1991). Free trade creates favorable conditions for the circulation of goods and services within a country and between countries, helping to optimize the allocation of resources of the economy, increase labor productivity, promote innovation and technology transfer, diversify categories, increase the quality of goods for consumers, maximize the effectiveness of the domestic market, and eliminate the distortion of the world market. Besides, empirical studies also find out that trade liberalization allows countries to participate more actively in international markets by boosting exports, leading to fiercer competition and improved productivity (Wagner, 2007).

In practice, free trade exists in various forms such as a free trade agreement at the global level, represented by the World Trade Organization (WTO), and a free trade agreement between two countries or groups of countries. Countries participate in free trade agreements to promote trade liberalization and international economic integration.

Free trade agreement (FTA) is an economic cooperation agreement signed bilaterally (between two countries) or multilaterally (among many countries), aiming to reduce trade barriers, including tariffs, import quotas, and other non-tariff barriers (Pham Thi Khanh and Phi Thi Hang, 2019). Accordingly, FTAs will promote bilateral or multilateral trade in goods and services, also, promote the growth and socio-economic development of countries.

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When participating in a free trade agreement, a member country, instead of producing goods by itself, can import goods from another member. This is trade creation. Meanwhile, trade diversion occurs when a member country imports goods from another member state instead of a lower-cost country that is not a member of the free trade agreement (Lloyd & MacLaren, 2004). These impacts lead to a more effective allocation of productive resources in the economy, contributing to the formation of a new economic structure based on the commitments signed between members.

To date, there are many studies based on empirical data about the impact of trade liberalization on a country's economic growth and trade from various perspectives. And there is a general consensus that trade liberalization facilitates the flow of trade in goods and promotes economic growth instead of using tariff barriers for protection (Winters, 2004; Ching, Hsiao, Wan & Wang, 2011).

Obviously, both static and dynamic benefits can be found in trade liberalization. Static benefits from trade liberalization refer to improvements in output or social welfare with fixed inputs or supplies from partners. The dynamic benefits of trade liberalization mainly come from improved productivity, increased foreign exchange reserves, and national welfare. Trade liberalization with other countries will provide the opportunity to exchange at international rather than domestic prices. This opportunity brings about benefits from exchange, as domestic consumers can buy imported goods at cheaper prices and manufacturers can export goods at higher foreign prices. Another benefit is related to specialization. Free trade encourages reallocation in production from goods that a closed economy is producing at a relatively high cost (comparative disadvantage) to goods produced at a relatively low cost (comparative advantage). By taking advantage of its comparative advantage in international trade, a country can increase its total output and social welfare.

In the context of increasingly strong and extensive international economic integration, Vietnam has signed many free trade agreements (FTAs) with major economic regions in the world. Actively participating in the negotiation and signing of FTAs has opened up many opportunities for Vietnam's export activities. Vietnamese goods have been present in the markets of more than 200 countries and territories with relatively high competitiveness, meeting the quality requirements of fastidious markets such as Japan, the EU, the United States, etc. [12]. The total export turnover of Vietnam in 2019 reached 264.2 billion USD, which increased 3.7 times compared to 72.2 billion USD in 2010 and exceeded the target of bringing the total export turnover of goods in 2020 to three times higher than that of 2010. The export growth rate for the period 2011 - 2019 reached an average of 13.4%, which was higher than the target of 11 - 12% set out in the Commodity Import-Export Development Strategy for the period 2010-2020 with a vision to 2030.

In particular, the Eurasian Economic Union (EAEU) is a traditional trading partner with a long and close relationship with Vietnam. The free trade agreement between Vietnam and the Eurasian Economic Union has brought Vietnam great opportunities to increase export value. Total trade turnover between the two sides increased continuously with an average growth rate of about 30% per year. In 2019, two-way trade turnover between Vietnam and the EAEU reached 10.4 billion USD, which increased 20.78% compared to 2018, accounting for 2% of Vietnam's total import and export turnover with the world [13]. However, there are also many challenges that require great efforts from Vietnam to successfully promote the export of goods to this market.

## 2. METHODOLOGY

The research method used is the desk review. This means that the author synthesizes and analyzes published scientific data on trade liberalization, opportunities and challenges for a country when entering into a trade agreement with a partner, which is an economic union. Through this content analysis, this study attempts to answer the research question, that is: What are the opportunities and challenges for Vietnam when joining Vietnam - EAEU FTA? Then, this study proposes some recommendations for Vietnam to take advantage of opportunities and overcome challenges to expand exports to the EAEU market.

This study also employs qualitative research methods by analyzing relevant secondary data from Trade statistics for international business development (trademap.org), information about total exports and imports via government websites, and previous research outcomes. The collection and processing of secondary data on total import and export turnover between Vietnam and the EAEU aim to provide a comprehensive picture of the trade relationship between the two sides after implementing the signed free trade agreement.

## 3. IMPACT OF THE FTA ON PARTICIPATING COUNTRIES

Many arguments for the impact of FTAs on member countries and on the rest of the world (Bhagwati and Krueger, 1995) through trade creation and diversion were mentioned by Viner (1950) in his partial equilibrium approach to international trade. These impacts help to effectively distribute interdisciplinary production forces in the economy, contributing to the formation of a new economic structure based on commitments to reduce tariff barriers in the FTA. Trade diversion leads to less effective use of resources in member countries. Due to the diversion to buy goods at a lower cost from non-member countries, the effect of “trade diversion” only changes trading partners without increasing welfare and drives production away from comparative advantage. As for trade creation, the member countries replace the production of a high-cost domestic good with a lower-cost imported product from the member country by removing tariff barriers; and this allows consumers of the importing member country to use the goods at a lower cost, while the exporting member country will produce and export more goods. The effect of “trade creation” increases the economic benefits and well-being of the peoples of the member countries since it facilitates specialization in production through economies of scale.

Research by Urata and Okabe (2007) has also shown that regional free trade agreements such as NAFTA, AFTA, and Mercosur have a “trade-creation” effect, meaning that trade flows in the region grow higher compared to imports from the rest of the world. Carrere (2006) pointed out that in addition to the “trade creation” effect there is also a “trade displacement” effect, reflected in the fact that the increase in intra-regional trade is completely replaced by a corresponding decrease in imports from the rest of the world. Hapsari and Mangunsong (2006) demonstrated that tariff reductions due to AFTA and CEPT boosted trade among ASEAN countries. Moreover, AFTA also diverts the trade of non-member countries and makes it less effective to structure trade flows within the bloc.

Several other studies have also focused on analyzing the impact of FTAs on the trade of developing countries in East Asia (Athukorala, 2005; Amiti & Konings, 2007). It has been shown

that the tariff reductions under FTAs have forced member countries to adjust their economic structure, redistribute production resources from import-competitive industries to industries with comparative advantage for export. In addition to the impact on international trade such as export and import of goods, FTAs also facilitate the movements of FDI capital flows, thereby contributing to growth, job creation, labor productivity increase, and improved investment effectiveness in Malaysia (Okamoto, 1994). Although it has been acknowledged that FTAs can bring about positive effects on the trade of member countries, the economic benefits achieved by different countries are not exactly the same (Diao and Somwaru, 2000). Therefore, countries need to assess and predict the impacts of FTAs on import-export turnover in order to proactively identify advantages and adjust trade policies to achieve effective economic growth.

The reduction of trade barriers provides opportunities for developing countries to promote economic growth and effective economic structure shift on the basis of developing advantageous industries (Krueger et al., 1997). Some industries have the room to develop thanks to their comparative advantages, while others (especially previously protected industries) are put under pressure to downsize their production or may go bankrupt. FTAs can bring positive effects to developing countries, but the magnitude and nature of the impact on the economic structure of each country are not completely the same (Wonnacott & Wonnacott, 1981).

Krugman (2009) emphasized that for countries with small economies, the economic structure is often susceptible to the effects of international trade. Reducing tariff barriers under FTAs has forced member countries to adjust their economic structure, redistributing production resources from competitive import industries to industries with comparative advantages for export. Forecasting and prioritizing the development of certain industries when participating in FTAs will help countries take the initiative in the process of adjusting their economic structure from the agricultural sector to the industrial sector, especially focusing on industries with comparative advantage (Srour, 2006; Yang, 2006). The closer the trade relations between countries before the negotiation and formation of the FTA, the greater the increase in future trade of the FTA. In particular, if the FTA signatories are each other's major trading partners, an FTA between them will ensure increased social welfare by limiting trade diversion, increasing trade creation, and reducing commercial costs (Evan et al., 2006). The trade relationship is assessed with many indicators such as turnover, proportion, trade growth rate, trade intensity index. When participating in an FTA, a country needs to understand the industries in which it has a comparative advantage as these are the industries with the potential for export. The more different the comparative advantages of FTA member countries are, the greater the opportunity to expand trade between countries and increase social welfare after the FTA is created (Evan et al., 2006).

Trade agreements can impact countries in different directions and degrees. It opens up opportunities for countries to create trading with partner countries, it also creates opportunities for member countries to redirect trade; thereby redistributing interdisciplinary production forces in the economy, increasing the benefits of member countries thanks to the process of specialization in production activities based on comparative advantages (Bui Quy Thuan, 2021).

## **4. EAEU AND VIETNAM – EAEU FTA**

### **4.1. Introduction about the Vietnam – EAEU FTA**

In 2010, Russia, Belarus, and Kazakhstan formed the Eurasian Customs Union (ECU) to create a common economic space and a single market that allows free movement of goods, capital, services, and people, with a primary focus on creating a common electricity, oil and gas market (Wolczuk and Dragneva, 2017). From this foundation, the Eurasian Economic Union (EAEU) was established in 2015. This is a regional economic link consisting of the Federal States of Russia, Belarus, Kazakhstan, Armenia, and Kyrgyzstan. Russia accounts for 85.8% of GDP and 80.3% of the population of the EAEU; while Kazakhstan accounts for 9.8% of GDP and 9.5% of the population; Belarus has 3.5% GDP and 5.3% population; Armenia has 0.5% GDP and 1.7% population; and Kyrgyzstan account for 0.3% of GDP and 3.2% of the population (Rotaru, 2018). This economic link plays a central role in regional and global relations, with the strategy of economic integration among members and the establishment of free trade areas with Eurasian countries.

The EAEU is a market with 180 million people and has a great economic value of 5 trillion USD (Saud and Kalim, 2020) but has not been deeply integrated into the global economy like other regions. This makes the EAEU attractive to many trading partners globally and especially in the Asia-Pacific region. Vietnam is an important Southeast Asian partner of the EAEU and is considered as a bridge for the EAEU to penetrate into the ASEAN market. In 2016, the EAEU ratified the first free trade agreement with a country outside the union, which is Vietnam, creating an immediate breakthrough in Russia-Vietnam trade. South (Fedorov, 2018). The EAEU is expected to eliminate import taxes on 88% of goods immediately or with a transition period of 5 to 10 years. As a result, Vietnamese manufacturers will have preferential access to many of the EAEU's consumer goods markets including clothing, footwear, fish, rice, fruits, vegetables, and household electrical appliances. The Vietnam - EAEU FTA has the role of promoting trade relations between Vietnam and Russia in particular and helping to increase trade turnover between Vietnam and EAEU countries in general (Fedorov, 2018).

### **4.2. Opportunities and challenges for Vietnam when joining Vietnam – EAEU FTA**

Vietnam has been actively negotiating and signing many free trade agreements. This is considered as an important development strategy to turn Vietnam into an international production and trade center as well as an important link in the global supply chain. Vietnam has signed 16 FTAs with important partners such as the UK, Canada, EU, Korea, Japan, Russia, China, Australia; and has been continuing to negotiate two FTAs with Israel and the EFTA bloc. In particular, Vietnam has completed a number of strategic new generation agreements such as EVFTA, CT-TPP, EAEU - VN FTA. These FTAs will bring many opportunities to develop the market for Vietnam, direct trade and investment activities of Vietnamese enterprises with partners. But on the other hand, the new generation FTAs also set strict regulations and standards for the participating parties in terms of improving product quality standards as well as the core values of sustainable development. Full enforcement of these regulations will help Vietnam's economy operate effectively and fully meet the requirements of the global supply chain. (Assoc. Prof. Dr. Tran Hoang Hai speaking at the International Conference "Implementing new-generation free trade agreements in Vietnam: Challenges in the fields of labor, environment and intellectual property")

### ***Opportunities for Vietnam when joining Vietnam – EAEU FTA***

The EAEU is an area which has a special political-economic relationship with Vietnam since the member countries of the EAEU are all traditional partners of Vietnam many years ago. According to Chairman of the Eurasian Economic Commission Council Tigran Sargsyan, Vietnam has become the first country with which the EAEU signed an agreement on a free trade area. This has opened up new opportunities for Vietnam to promote exports to the EAEU market but also poses challenges to be solved.

The fact that Vietnam becomes the first FTA partner with the EAEU has opened up valuable opportunities for Vietnam.

*First*, the Vietnam - EAEU Free Trade Agreement brings about opportunities for Vietnam to open up the market. With a population of over 180 million people, the EAEU is a potential market for Vietnamese export.

The EAEU market has great demand for products belonging to the export advantages of Vietnamese enterprises such as garments, footwear, agricultural products, seafood, phones, and accessories. Taking advantage of that opportunity, there are more than 900 Vietnamese enterprises participating in exporting aquatic products, agricultural products, textiles, and wood products to the EAEU market (Ministry of Industry and Trade of Vietnam, 2017). It can be seen that the Vietnam - EAEU free trade agreement has opened up opportunities to add value to Vietnam's products with export advantages [2].

*Second*, the commitments to reduce tariff and non-tariff barriers are favorable gateways for export between Vietnam and EAEU countries. The free trade agreement between Vietnam and the EAEU took effect on October 5, 2016, with more than 90% of tax lines being reduced (of which 59.3% of tax lines were eliminated as soon as the agreement was signed). This creates a great advantage for Vietnam in competing with other countries when exporting to this market.

Tariff commitments are stipulated in Article 2.3, Chapter 2 of the Agreement, whereby the member countries commit to eliminating tariffs on 11,360 tariff lines. The EAEU countries are committed to opening the goods market to Vietnam by eliminating tariffs for the following groups of goods:

(1) the group of goods eligible for tariff elimination immediately after the agreement comes into effect (EIF) includes 6,718 tariff lines, accounting for about 59% of the current tariff;

(2) the group of goods eligible for tariff reduction according to the annual reduction schedule and eligible for tariff elimination in the last year of the roadmap (by 2025 at the latest) includes 2,876 tariff lines, accounting for about 25% of the current tariff;

(3) the group of goods to be reduced by 25% immediately after the agreement comes into effect and then maintain a fixed tariff includes 131 tariff lines, accounting for about 1% of the current tariff;

(4) the non-committed group includes 1,453 tariff lines, accounting for 13% of the current tariff (the EAEU is not bound to eliminate or reduce tariffs, but the members can unilaterally eliminate or reduce tariffs if they wish);

(5) the group applying threshold protection measures includes 180 tariff lines, accounting for 1.58% of the current tariff;

(6) the tariff quota group includes only two types of goods: rice and unprocessed tobacco leaves.

*Third*, the main export products of Vietnam and EAEU member countries do not compete with each other in the domestic market of the members of the agreement. This will create conditions for the parties to achieve mutual benefits, open up opportunities to form a free trade area, while minimizing factors such as trade risks with Vietnam.

Making use of those advantages, trade turnover between the two sides increased continuously with an average increase of about 30%/year. After Vietnam and the EAEU signed a free trade agreement in 2015, the average growth rate of trade turnover was 15.1%, equivalent to a turnover of 4.15 billion USD compared to 1.41%, equivalent to 2.79 billion USD. Vietnam's export turnover to the EAEU increased by an average of 2.7%, equivalent to a turnover value of 1.84 billion USD, to 13.7% or 2.42 billion USD in value. In 2019, two-way trade turnover between Vietnam and the EAEU reached 10.4 billion USD, which increased by 20.78% compared to 2018 and accounted for 2% of the total import and export turnover of Vietnam with the world [13].

In addition to eliminating existing non-tariff barriers, creating momentum for bilateral trade growth, the VN-EAEU FTA also brings about many other benefits such as promoting coordination at the expert level, establishing statistical data exchange, developing an electronic certification system, and verifying the origin of goods.

### ***Challenges for Vietnam***

*Joining the free trade agreement between Vietnam and the Eurasian Economic Union also brings about difficulties and challenges that Vietnam must overcome in order to both penetrate deeply into this market and protect its own products and domestic businesses.*

*First*, according to the agreement, Vietnam opens its market to EAEU countries. Accordingly, the Union's strong products such as spare parts, equipment, machinery, metals, fertilizers, crude oil, and liquefied gas will enter the Vietnamese market with more competitive prices than domestic products. This requires both the Government and Vietnamese businesses to immediately and consistently implement programs and solutions to protect their own products in the domestic market.

*Second*, import procedures within the EAEU are relatively complicated, unclear, and inconsistent, causing many obstacles to Vietnam's exports to this region. In fact, the trade relationship between Vietnam and the EAEU is still limited due to many existing tariff barriers. Along with that, the specific standards for products of the EAEU market cause hesitation for businesses. Because businesses are often interested in markets with easy entries, more preferential conditions, and higher added value in production and export.

*Third*, Vietnam still has problems with EAEU countries in a number of issues related to animal and plant quarantine, mutual recognition of quality in food hygiene and safety, and even in some procedures associated with opening the market for Vietnamese agricultural products, aquatic products, vegetables, and fruits. In addition, there are problems related to the threshold protection of some textile and garment products, especially in the Russian market.



*Fourth*, while Vietnamese goods have to compete with other countries' goods in the EAEU market, EAEU consumers do not know much about Vietnamese goods, but they have more knowledge about European goods.

*In addition, the trade relationship between Vietnam and the Eurasian Economic Union faces geographical difficulties, as the distance between the member countries is quite far apart, some countries do not border with the sea, leading to difficulties in transporting goods and increasing logistics costs.*

## **5. RECOMMENDATION AND CONCLUSION**

Participating in FTAs in general and Vietnam - Eurasian Economic Union FTA, in particular, gives Vietnam opportunities to expand markets and increase export value thanks to tariff commitments and complementary industries, while also facilitates technology cooperation and transfer. Compliance with the general requirements of the agreement will promote more effective trading, reduce transaction costs, and improve the business environment. Moreover, the FTA also creates opportunities for Vietnamese enterprises to participate in the global production value chain and enhance international cooperation. It can be said that the FTA plays an important role in promoting economic growth and increasing trade flows between Vietnam and the Eurasian Economic Union.

However, Vietnam faces a number of challenges such as competition between the goods of Vietnam and those of the EAEU as well as those of other EAEU partners; the complexity and inconsistency of the import procedures of the EAEU countries; problems in quarantine; and the limited understanding of EAEU consumers about Vietnamese products.

Some proposed solutions for the Government and enterprises of Vietnam to make the most of the opportunities and overcome the challenges brought about by the free trade agreement between Vietnam and the Eurasian Economic Union are as follows:

*From the Government side:*

It is necessary to work closely with EAEU countries to implement the provisions of the Agreement, especially when there is a need to comply with other international trade treaties and to solve problems caused by ever-changing world market conditions. Only by joint efforts can important results be achieved, including economic cooperation.

Ministries, especially the Ministry of Industry and Trade as well as Vietnamese trade agencies overseas need to widely propagate so that businesses can fully understand the contents of the Agreement, and at the same time clearly see the advantages and disadvantages for businesses and for each industry. It is necessary to continue promoting information dissemination on the market, connect businesses of the two sides, organize working sessions and business meetings, promote trade, identify difficulties faced by enterprises, and promptly notify trade remedies to enterprises.

It is required to quickly propose and develop mechanisms to effectively operate transportation routes by road, railway, and sea; thereby contributing to improving the effectiveness of import-export and investment activities between the two sides. It is also important to pay attention to the selection of the most effective transport route. This will allow the rapid transportation of Vietnamese agricultural products and other goods to the EAEU market.

Besides, it will be very beneficial for the Government to have policies to minimize administrative procedures at the authorities, especially business and import-export procedures. It is essential to remove current non-tariff barriers, run electronic administrative procedures, promote mutual recognition in the agricultural sector, develop a mechanism for food inspection and the issuance of food safety certificates for EAEU and Vietnamese products.

*From the side of enterprises:*

Enterprises need to carefully study the provisions of the Agreement, the tariff reduction roadmap, the regulations on product origin, and the laws of other countries to have the best market penetration strategy.

In order to take full advantage of the FTA, it is necessary to establish more active interactions between businesses of the two sides, including the regular organization of business forums, fairs, and exhibitions.

In particular, specialized business forums should be regularly organized because the economic effectiveness achieved through these forums is huge.

Moreover, enterprises must develop strategies for key sources of goods for the EAEU market and have policies to attract investment to develop high-quality goods sources for import and export in the long term.

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# VIETNAMESE DIGITAL WALLET MARKET

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**Abstract:** *This paper aims to analyze the potential of the Vietnamese digital wallet market, as well as the challenges it faces in the current situation when digital payments and mobile wallets have been the fintech sector that received the most funding and attention from investors in Vietnam. By using the synthesizing methods and analytical methods, the authors have assessed and evaluated the existing situation and identified the current development trend of the digital wallet market in Vietnam, thereby proposing some solutions to leverage the opportunities and overcome the challenges in further developing the market.*

**Keywords:** *Vietnamese digital wallet market, fintech sector, digital payments, mobile wallets*

## 1. AN OVERVIEW OF THE DIGITAL WALLET MARKET IN VIETNAM

Julia Kagan (2022) described a digital wallet (or electronic wallet) as a financial transaction application for mobile devices such as phones, and tablets, to name but a few. After entering and storing their credit cards, debit cards, or bank account information, users can use their devices to pay for purchases.

Digital wallets essentially eliminate the need to carry a physical wallet by storing all of a consumer's payment information securely and compactly.

Nowadays, digital wallets have become more and more well-known around the world. Some of the world's most famous digital wallets are ApplePay, Google Wallet, Samsung Pay, and PayPal. In Vietnam, the e-wallet market has both foreign and domestic suppliers rushing to join the trend.

Financial technology companies have launched products like MoMo, VNPAYQR, NextPay, Payoo, and Pay365. Domestic banks introduced products like Bank Plus, cooperation between telecom giant Viettel and MBBank, Timo by VPBank, and MEED by Maritime Bank. Telecom enterprises Vinaphone, Viettel, VTC, and FPT have launched VNPT Pay, ViettelPay, VTCPay, and Pay FPT. Even Zalo, which provides messaging services, has made a move, launching ZaloPay.

According to statistics from the State Bank of Vietnam (2019), there were 32 digital payment service providers licensed in Vietnam (Fintechnews Vietnam, 2020), of which the majority were e-wallets, the top three favorites being MoMo, Zalo Pay, and AirPay (ShopeePay).

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Fintech has been receiving much buzz on the Vietnam tech scene. More specifically, digital wallet payment methods have been in fierce competition with each other to grow their user base and the number of transactions. Without a doubt, there remains a lot to discover about e-wallets in Vietnam. Digital payments have been the fintech sector that has received the most funding and attention from investors in Vietnam in recent years. Formerly one of the most cash-reliant countries in Southeast Asia, Vietnam has seen one of the highest cashless payments adoption rates in the region in 2020. Vietnam records one of the highest e-payment growth rates in the world, about 35% per year (Vietnamnet Global, 2021). The electronic wallet, in particular, represents a modern, convenient payment option. The emerging mobile wallet segment has been contributing significantly to the growth of Vietnamese digital payments, accounting for an increasing transaction value which was forecast to reach over 48 billion U.S. dollars by 2025.

## **2. CURRENT TREND OF THE DIGITAL WALLET MARKET IN VIETNAM**

### Growing usage of digital wallets in Vietnam

With the growth of the Vietnamese e-commerce segment comes the growth of digital payment methods. The COVID-19 pandemic has made using digital payment services, especially e-wallets, the “new normal” among many of the highly connected consumers in Vietnam. In 2020, there were around 19.2 million mobile wallet users in the country, and the number of users was predicted to grow almost three-fold between 2020 and 2025. According to a survey conducted in 2021, the usage rate of e-wallets reached close to 60% among respondents across Vietnam. This rate was noticeably higher in bigger cities, such as Hanoi or Ho Chi Minh City. The same survey also revealed that over 60% of Vietnamese users had at least two e-wallet apps in use (Minh-Ngoc Nguyen, 2021).

MoMo, Vietnam’s most popular e-wallet, has more than 12 million users, 10,000 partners, and more than 100,000 points of sale. It has partnered with banks to increase the number of customers and created more points of sale (Vietnamnet Global, 2021).

The growing number of e-wallet providers sums it all up: In Vietnam, there are currently more than 40+ e-wallets, compared to merely five e-wallets just 6 years ago (Mai Trinh, n.d.). The idea and the demand are there. However, for digital wallet providers, the recipe for success is still in the making. Some mobile wallets leverage their ‘first-mover’ advantage by becoming exclusive partners to super- apps, while others derive benefits from financial institutions and sharing customer base.

The impact of COVID-19 in Vietnam has spurred more than ever the growth of cashless payment, including electronic purses.

According to a Visa survey, amid the pandemic, Vietnamese users are gradually prioritizing using digital wallets and contactless payments (VNA, 2021). It showed that 57% of respondents have up to three e-wallet apps, while 55% prefer an app that can perform all transactions. A large number of digital wallets, such as MoMo, Moca, ZaloPay, Viettel Pay, Payoo, ShopeePay, and most recently MobiFone Pay, are available in the market, offering many incentives to attract customers, making the market more bustling than ever.

COVID-19-induced contact and travel restrictions have caused users to switch from physical stores to online channels. E-wallets have seized the opportunity to massively launch their promotion programs, hence a higher payment rate.

The latest figures from the State Bank of Vietnam showed that during the early months of 2021, more than 200 million transactions worth some 77.7 trillion VND (3.38 billion USD) were made through e-wallets (VNA, 2021). The convenience of e-wallets in payment is the reason for many banks to engage in this service segment. According to AppotaPay's forecast, the cashless payment market will grow strongly in the next three to five years. In particular, mobile money and e-wallets will be key services to help non-cash payments expand their share in the Vietnamese market.

### **Vietnamese digital wallet market growth and competitive landscape**

The e-wallet market has been one of the biggest driving forces behind Vietnam's move towards a cashless society. It is also considered a highly competitive market, with operators constantly being forced to come up with new offers to win and retain more customers.

E-wallets have taken the center stage in the booming fintech sector in Vietnam. A young, connected population and a growing economy have made Vietnam a promising market for this digital service. As a result, the competition among an increasing number of e-wallet providers has accelerated the growth of this segment within only a few years. Starting with five digital wallet providers in 2015, Vietnamese consumers had over 30 digital wallets to choose from in 2020 (Minh-Ngoc Nguyen, 2021). This segment consisted of some of the biggest Vietnamese and Southeast Asian tech companies, such as ViettelPay from the homegrown Viettel Group and Singaporean Sea Group's ShopeePay (AirPay). On the other hand, MoMo, a Vietnamese super app, has consistently been the leading mobile wallet brand, holding over 50% of the market share as of 2020. Having amassed more than 25 million users in 2021, MoMo is currently focusing on its expansion after reportedly bagging 100 million U.S. dollars in its Series D funding. Meanwhile, other e-wallets have made significant progress in attracting users thanks to the boost in usage of digital payment during the COVID-19 pandemic, signaling a continuing dynamic competition and further growth of the Vietnamese e-payment market.

In an interview, RMIT finance lecturers Dr. Pham Nguyen Anh Huy and Dr. Doan Bao Huy discuss the current situation within the industry, and where they are heading next (Ngoc Hoang, 2020).

Dr. Pham Nguyen Anh Huy: We are witnessing fierce competition among e-wallet providers. Although the market is rather crowded with over 30 providers (as of 15 October 2020), big names such as Momo, Moca, and ZaloPay are dominating. Momo is one of the oldest players with a huge customer base (which recently topped 20 million) while Moca and ZaloPay are taking advantage of their ecosystems. The stiff competition leaves only a small space for newcomers, who may have to resort to competing via discounts and burn lots of money in the process.

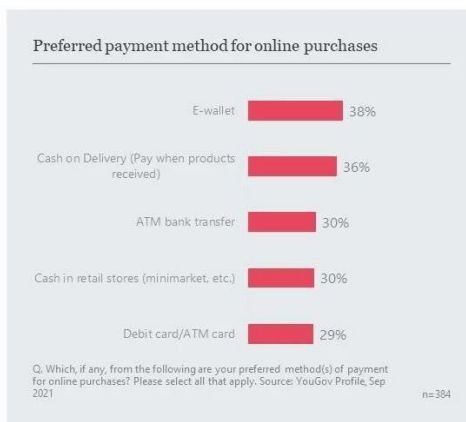
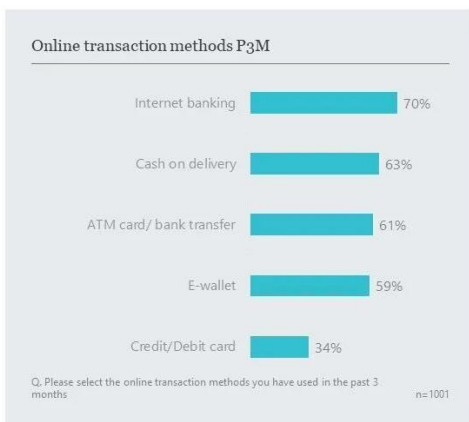
Dr. Doan Bao Huy: At the moment, each e-wallet is trying to offer some exclusive products and services. Momo is active in payment services for grocery and convenience stores. ZaloPay, which is built on top of Vietnam's most popular messenger app Zalo, offers lucrative cashback deals for mobile top-ups. Meanwhile, Moca's reach has grown upon the two basic services on Grab's platform – ride-hailing and food delivery. However, many built-in functions are similar across different e-wallets.

This means people can use multiple wallets for the same product or service as long as they get the best deal out of it, so e-wallets need to work very hard to gain the loyalty of customers.

**Digital wallets’ context for success**

Once the most popular method of payment, cash-on-delivery has seen a downward trend in usage ever since the pandemic started in early 2020. Correspondingly, digital payment methods, including internet banking (70%) and e-wallets (59%), have stepped in. Thanks to the rise in digital payments, there is a great potential in the Vietnam market for e-wallets, as it is becoming the most preferred method of payment for making online purchases.

Over the past 3 months, digital payment has seen an increase in popularity, where 70% of the online population have used internet banking in place of COD. E-wallet is also becoming more popular with usage rate of 59% and is the most preferred payment method for online purchases.



8

E-wallets came into existence with the primary purpose of facilitating transactions and online payments, which holds for two-thirds of Vietnamese consumers. It is noteworthy that promotions are the second most important reason for using mobile wallets over other payment methods (65%), followed by convenience when paying for bills (61%). Understanding customers’ motivation for using digital wallets can help providers improve key features to stay ahead of the competition.

Customers choose E-wallets over other payment methods for its key functionalities such as easy money transfer, fast online payment, and/or convenient bills payment. Notably, promotions also make E-wallet a more preferred payment method.



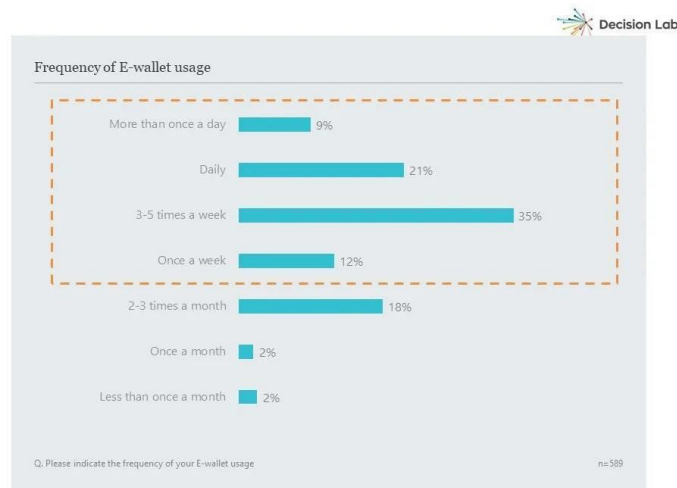
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Source: (Mai Trinh, n.d.)



Our findings also show high usage frequency for e-wallets. Two-thirds of Vietnamese customers use e-wallets on a weekly basis. Among them, 35% use e-wallets 3-5 times a week, and 30% use e-wallets daily. In addition, 61% of Vietnamese customers use two or more digital wallets. The increase in e-wallet usage is not a result of social distancing. Only 6% of users intend to use e-wallets less in the future. Otherwise, 37% of customers claim they will continue using e-wallets as much as they do now. And most importantly, 57% of customers intend to use e-wallets more frequently in the next six months.

E-wallet enjoys a high usage frequency, with 77% of users using it at least once per week to make payments or transfer money.

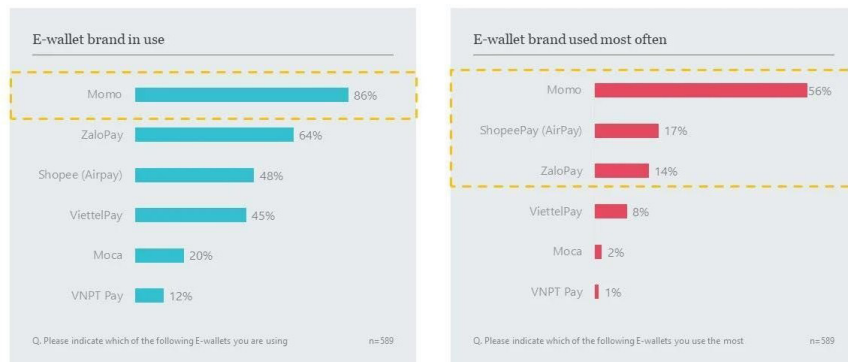


Source: (Mai Trinh, n.d.)

### Top digital wallet providers

Momo, ShopeePay (AirPay), and ZaloPay are the top three most popular e-wallets in the market, based on penetration rates. These digital wallets are different in nature making their popularity all the more intriguing. While Momo is an independent digital wallet, ZaloPay and ShopeePay partner up with established platforms (Zalo and Shopee). With the most familiar name on the scene, Momo retains its market leader position both in terms of active customer base (86%) and most used e-wallet for 56% of users. Although ZaloPay is more popular than ShopeePay, the latter is better at encouraging transactions and usage among current users.

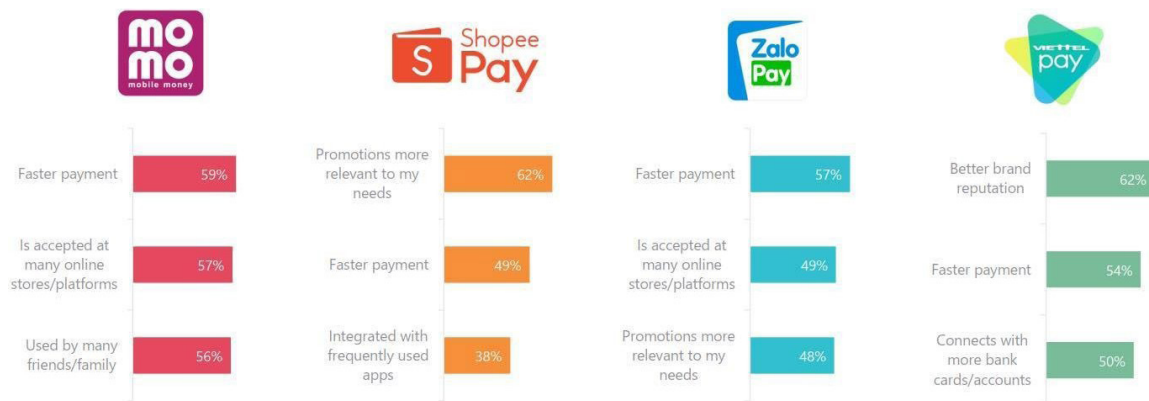
In terms of brand positioning, Momo is the most popular & most used E-wallet with 86% usage rate. Furthermore, even though ZaloPay is more popular than ShopeePay, the latter is used more often.



Source: (Mai Trinh, n.d.)

### Key differentiating factors among top digital wallets

As an independent e-wallet, Momo's success comes from its superior delivery of key functions, such as fast transactions and a wide acceptance network. On the other hand, ShopeePay as an e-wallet for e-commerce shopping is most used by consumers for promotions and convenience in making online purchases. As for ZaloPay, this e-wallet's aggressive acquisition strategy by offering a myriad of promotions has clearly been effective, as most users turn to ZaloPay for its convenient payment services (fast, accepted at many retailers) and promotions. For ViettelPay, brand reputation is the most important trigger for adoption.



So far, it seems difficult for e-wallets to differentiate themselves beyond easy money transactions, convenient bills payment & attractive promotions. However, knowing that more and more people will use mobile wallets and the current users will use e-wallets more frequently, we can expect that customers' needs will grow beyond the basic features. That said, as more digital wallet providers enter the scene, we believe the key to success lies in providers' ability to identify and address their target customers' needs.

### 3. OPPORTUNITIES, CHALLENGES AND SOLUTIONS TO FURTHER DEVELOP THE VIETNAMESE DIGITAL WALLET MARKET

Vietnam is known as one of the countries with the highest growth in electronic payments in the world. Especially in recent years, the number of people using wallets has increased significantly. The increasing number of users, as well as the emergence of more and more e-wallets, have raised many questions about the opportunities and challenges of the e-wallet market.

#### Advantages of the Vietnamese digital wallet market

**Firstly**, it offers more convenience for many consumers. Users are able to get through a purchase in mere seconds, all you need to do is tap your device to the payment receptacle, or have your mobile device scanned, to pay for the items you are purchasing. Therefore, the experience of purchasing items becomes quicker and easier, leading to a greater sense of satisfaction. Furthermore, with faster transactions, checkout lines within stores become much shorter.

**Secondly**, also recently, digital wallets have constantly provided more features to serve customers and achieve the goal of capturing market share. Some digital wallets continue to apply AR scanning technology, allowing customers to view and receive information in an efficient way. Moreover, users can pay almost every kind of bill for daily services such as water bills, electricity

bills,... Therefore, the fourth industrial revolution has created many opportunities to develop modern, easy-to-use forms of payment in general and e-wallets in particular.

**Thirdly**, sometimes, there are lots of attractive discounts when buying products online. By using the digital wallet of any online wallet provider, you can find some discounts, only when you make payments with your digital wallet. Discount promotions are also a pretty effective way to attract users.

According to natural psychology, it makes them have a desire to experience, thereby gradually changing their habits, but retaining long-term, regular customers do not depend too much on this but also experience, stability and security issues. This can also be a great benefit of having a digital wallet.

**Fourthly**, digital wallets use one of the most secure payment methods available: tokenization. Your information is encoded and each transaction you make using your digital wallet creates a unique, one-time code, reducing security risks. If you drop your physical wallet, your cards and information can easily be stolen, compared to digital wallets that require two-factor authentication or face ID. This means, that if you drop or lose your phone, people will have a more difficult time accessing your phone, if even possible. When making a purchase, authorization can be required in the digital wallet's settings, requiring a unique passcode, Touch ID, or Face ID to make a purchase. Lastly, when you enter your Arbor Financial debit or credit card into your digital wallet, it is fully linked to your Arbor account. So, you'll be able to see payments and continue monitoring your card through mobile banking and your card statements.

**Fifthly**, every amount spent on your mobile wallet or each of your transactions can easily be tracked through your account. How many dollars do you add to your wallet from your bank account, how many dollars do you spend every day. The amount of money you spend can be tracked through your digital wallet account. Besides, digital wallets allow you to organize and carry less by saving loyalty cards, gift cards, coupons, travel passes (plane tickets, hotel reservations, the train passes, etc.), and even your student ID to your phone. Consolidating everything in one place allows you to keep everything easily accessible, organized, and top of mind.

### **Disadvantages or Challenges of the Vietnamese digital wallet market**

Although there are many features to meet the needs of modern users such as time-saving, cost-saving, quick and simple payment, and many incentives, e-wallets also face many challenges in the process of development.

**Firstly**, the habit of paying in cash in Vietnam is still very common along with the fear of fraud and risks in the payment process. Therefore, a part of Vietnamese consumers still chooses the form of cash payment. Although few digital wallets are appearing in recent times, there is no outstanding solution, creating a trend for the market. These are also the biggest obstacles for consumers and the overall development of the market.

**Secondly**, the issue of fraud risk in mobile wallet payments. This is a big challenge for the development of digital wallets in the coming time. The reality shows that many people are afraid to use mobile payment because of its risks such as loss of money, theft of personal information, fraud, etc. The risk of fraud is one of the reasons that discourage consumers from using e-wallets. In addition, the fear of being hacked or facing a malware attack or data leak is also a cause for

consumers to feel unsafe when using this modern payment method. In Vietnam, electronic fraud is also on the rise, when banks simultaneously warn of new tricks to steal OTP codes to get data and then connect electronic wallets to withdraw money via personal email, electronic wallets.

**Thirdly**, a number of Vietnamese consumers still have not kept up with technological advancements taking place globally. They are not aware and have little confidence in modern payment methods in general and e-wallets in particular. Although it was born in 2008, it is only in the last three years that the concept of an e-wallet has been known and accepted by many people. Ignorance leads them to think that digital wallets are not a convenient and secure mean of payment and raises several questions such as: What if a user's phone is hacked? What if the user loses the device, is there any money in the wallet? What if the user is locked out or loses access?etc.

**Fourthly**, there is still no full and official legal framework for payment via digital wallets. In other words, there are no sanctions or laws regulating the legality of e-wallets and the risks as well as ensuring the safety of users' assets whenever there is a dispute. Therefore, online consumer protection laws need to be stricter and more strictly enforced, in order to encourage consumers to pay more through e-wallets.

**Fifthly**, the digital wallet market in Vietnam is a vibrant and competitive playground with diverse user approaches. E-wallets, in particular, and fintech, in general, have brought many benefits to the economy and society. Although the number is large, the market still has a lot of untapped gaps. Each wallet plays a unique role because e-wallet users are clever by choosing to use each e-wallet for a purpose, no wallet can fully meet their needs.

### **Solutions to further develop the digital wallet market in Vietnam**

The 4.0 technology revolution has changed the business and consumer payment habits of Vietnamese people. However, with people's psychology still concerned about the safety of online payment services and the long-standing habit of using cash, besides increasing utility, e-wallets must pay special attention to ensuring safety and security for customers, so that they can develop quickly and sustainably. From analyzing the current situation of payment by e-wallet in the past time, in order to develop this form of payment in Vietnam, we would like to make some recommendations as follows:

**Firstly**, completing the legal framework to manage, supervise and create favourable conditions for new forms of electronic payments. Promulgating regulations on the responsibilities of service providers and users, ensuring security, safety, and stable operation, and limiting risks arising.

Nguyen Ba Diep, Deputy Chairman of MoMo, says he believes digital wallets will prosper in Vietnam in one or two years when only 3-5 wallets will still exist. The key is a state policy strong enough to make digital wallet providers, banks, and retailers feel they are all benefitting. "The state should encourage businesses to use e-payment and recognize its value at a more macroscopic level. For example, if 30% of the revenue of a company is received digitally, the company should get a tax reduction", said Diep (Vietnamnet Global, 2021).

The State Bank of Vietnam will continue to complete the legal framework for new business models and products and services on technology platforms, with a focus on cashless payments and a controlled trial mechanism for financial technology activities (Fintech) in the banking sector. In

particular, the central bank will coordinate with relevant ministries and departments to pilot the use of telecommunications accounts to pay for low-value goods and services (Mobile Money).

**Secondly**, diversifying features of digital wallets to meet the maximum needs of customers: Diversity of features is an indispensable requirement for users to be able to recharge their wallets in many ways: top up money from cards, phones, top-up via payment account, transfer via bank, Internet Banking, Mobile Banking... In addition to payment functions, e-wallets have also cooperated with many partners, such as e-commerce platforms and convenience stores, to form a widespread ecosystem meeting consumers' needs. Consumers can use e-wallets to buy food online, order goods and have safety services from their homes, and enjoy incentives and cashback features from digital wallet providers and partners. Visa Country Manager for Vietnam and Laos Dang Tuyet Dung said 84 percent of Vietnamese respondents have already shifted to digital payments, paving the way for the country to become a cashless society by 2030 (Phuong Hoa, 2022).

**Thirdly**, promoting information and propaganda work, communicating work and coordinating with press agencies to implement communication programs to raise awareness and strengthen consumers' confidence. In addition, companies should focus on developing and expanding application models of new and modern means and forms of payment, serving rural, remote, and isolated areas.

Such as pulling out the breaks for the coming Lunar New Year holiday in 2021, local leading e-commerce platform MoMo recently launched the Lac Xi season 3 promotion programme offering diverse prizes such as vouchers for food and drinks, phone cards, iPhone 12, MacBook, Apple Watch, and millions of red packets containing cash and savings books worth a total of 300 billion VND (\$13 million) (Van Anh, 2021).

Besides events for every New Year, MoMo offers hundreds of promotions each year, in order to attract more and more users. Last December alone, the platform offered 37 promotions.

The Vietnamese government also issued a document asking the central bank to come up with new ways to encourage the use of e-wallets, such as allowing people to add money to their wallets without going through a bank account. It also approved a pilot project that enables money transfers and purchases through mobile phone accounts for small transactions.

The State Bank has also allowed the pilot implementation of 3 non-cash payment models in rural areas (the bank cooperates with telecommunications groups, and petrol stations to provide fast money transfer services to people in rural areas). rural areas, remote areas, and people who do not have a bank account).

The State Bank has also piloted using telecommunications accounts to pay for goods and services of small value (Mobile Money) and has licensed 3 telecommunications carriers including Viettel, VNPT and Mobiphone to pilot this service.

**Fourthly**, strengthening network security, confidentiality, and information safety. Measures should be taken to ensure security and safety for important payment systems. Cooperating closely and effectively with law enforcement agencies. In addition, the State Bank should actively monitor and update the situation of domestic and international cybersecurity to warn and monitor units throughout the industry to promptly prevent and handle risks, information technology, and security holes.

With digital ID, related authentication mechanisms, and criminal activity on the rise, a unified approach against financial crime is crucial. It is truly a business imperative to implement appropriate infrastructure to deal with cyber risks amidst growing customer expectations of faster payments with fewer checks. For comprehensive protection, detective measures (e.g. risk scoring, lockout mechanisms) need to be adopted alongside preventive technologies (e.g. biometrics, in-session analytical solutions).

In order to increase safety and security for the e-wallet market, at the end of November 2019, the State Bank of Vietnam issued Circular 23/2019/TT- NHNN amending and supplementing a number of articles of Circular 39/ 2014/TT-NHNN on guiding payment intermediary services.

Notably, according to this circular, individual users need to provide and verify e-wallet opening information including full name, day, month, year of birth, nationality, citizen identification number, identity card number, etc. citizenship or valid passport number.

With the increasing sophistication of financial crime, SEA will see increased dependence of local and regional stakeholders in combating these threats. Consumers and organizations are also likely to favor jurisdictions making great advances in cybersecurity, both in terms of prevention and future recourse. Vietnam has increased its ranking in the Global Cybersecurity Index (GCI) in 2020, coming in 4<sup>th</sup> among 11 ASEAN countries and 7<sup>th</sup> in Asia-Pacific (Hanoitimes, 2021). But more can be done to enhance cybersecurity. Increased sharing of information among intergovernmental or public-private partnerships will enable greater financial transparency resulting in stronger defenses against financial crime.

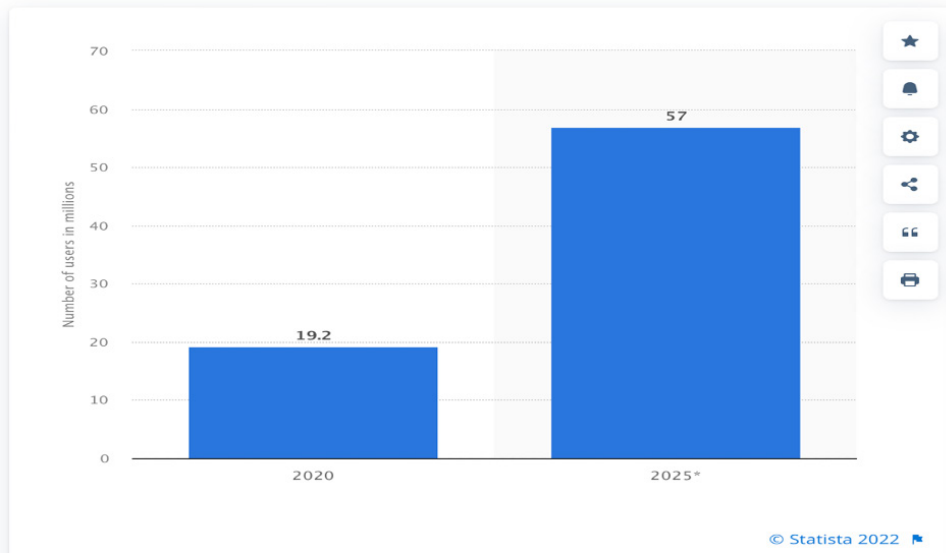
**Fifthly**, in order to have a stable and sustainable fintech environment, necessary changes are needed. Specifically, the enterprises participating in the playground themselves need to look back on their development. Therefore, they not only can create benefits for society but also ensure finance for businesses, avoid the situation of “burning money to get users” but not getting customers’ loyalty, running out of promotions, and customers don’t use other services so that businesses can make a profit.

In addition, there should be more regulations on competition management in the e-wallets and e-commerce field to ensure a healthy and fair policy in the market among businesses.

### **Opportunities for the market in the near future**

E-wallets are increasingly becoming a familiar form of payment for consumers today, especially young people. With the strong development of digital trends and many utilities, e-wallets have the potential to grow strongly in the near future. The digital wallet market in Vietnam is currently booming with the appearance of many new names, increasing the number of digital wallets to more than 40 with diverse utilities, compared to only five e-wallets just six years ago. The number of Vietnamese users in 2020 was 19.2 million and will be 57 million in 2025 (Minh-Ngoc Nguyen, 2021).

(in millions)



Besides the growth rate, the market gap up to now is also a promising factor for businesses to enter the playing field. The level of entry into the digital wallet market is still quite low. Statistics of the State Bank show that Vietnam currently has 89 million personal payment accounts, equivalent to nearly 70% of adults with bank accounts, but only 13 million e-wallet accounts. In addition, the percentage of people who do not know about e-wallets is still quite high (59%) but after using them, the rate of continued use is high - the conversion rate is 77% (Statista, 2020). This is the reason why many companies are starting to enter this market and organize communication activities to reach unknown users of digital wallets, taking advantage of this huge gap.

The COVID-19 pandemic makes it difficult for people to access goods and services in an old-fashioned way. Pham Tien Dung, director of the Payment Department under the State Bank of Vietnam, said the number of mobile wallet transactions is almost equivalent to bank transactions, although their value is much lower. Data shows that the number of people using digital wallets and cashless payments has increased sharply in recent years, especially since the Covid-19 outbreak. Specifically, more than 85% of consumers have at least one e-wallet or payment application and more than 42% of consumers use contactless payments with their mobile devices. In particular, 71% of users pay through e-wallets or payment apps at least once a week. According to the National Payment Corporation of Vietnam (NAPAS), the system processed more than 800 million transactions in the first five months of the year, or over 8,000 trillion VND, an increase of 113% in volume and 169% in value compared to a year ago (VCCI, 2020).

Digital wallets are also supported by State agencies to deploy solutions to apply technology in payment activities such as allowing cash to be deposited into the wallet through a bank account and applying basic standards to the payment system. QR code department, etc. Urban centers have been directing people to cashless purchases and QR codes help businesses accept cashless payments. Nguyen Quang Minh, deputy general director of the National Payment Services Corp. (Napas), noted that his corporation had developed various financial solutions to promote cashless payments in Vietnam (VNS, 2022). Notably, it has introduced multi-purpose chip cards that are

compatible with applications from different fields, including healthcare and insurance, allowing cardholders to easily make payments in such fields.

However, he also admitted that current payment acceptance networks are inadequate to meet the demand of a market of nearly 100 million. “For this reason, Napas, banks, and financial intermediaries will cooperate to expand payment acceptance networks in the near future”, he added.

Pham Thi Mai Anh, director of the Digital Banking Service Centre at Military Bank, claimed that her bank was the first to cooperate with Napas in the roll-out of QR Code payments, notably VietQR. “We are continuing to promote VietQR among sellers in local marketplaces to expand its coverage,” she added. The director also revealed that her bank’s virtual cards would target young people, which is the driving force behind the growth of digital payments (VNS, 2022).

Applications such as Gojek and Grab entering the Vietnamese market fuel the popularity of digital wallets. Consumers prefer the seamlessness of different online platforms when using digital wallets. Experts reckon the tie-up with MoMo could encourage Gojek’s growth with not much cost. What makes the deal a good one is the fact that MoMo’s users alone outnumber the country’s entire market for ride-hailing. The local e-wallet unicorn has 31 million users, whereas the whole of Vietnam has 19.9 million ride-hailing and taxi users, based on Statista estimates in 2021 ( Dashveenjit Kaur, 2022).

The use of digital wallets and online shopping has increased because the demographic group in Vietnam is currently mostly young (accounting for 60% of the population)<sup>1</sup>. Vietnam’s young population structure is exposed to modern technology, causing consumption habits to change in a positive direction, helping e-wallets quickly develop. The increase in the adoption of digital products will certainly continue to increase as Vietnam deploys its 5G network and improves internet access even in remote areas.

Along with the development of e-commerce are modern forms of payment such as bank cards and digital wallets. For consumers: e-commerce helps them have a wide choice of products and services; minimizes purchase time and travel costs; creates opportunities to buy products at lower prices, access to more information, etc. Therefore, the explosion of e-commerce will be one of the great opportunities for the development of digital wallets in the future.

#### **4. CONCLUSION**

Vietnam is one of the countries that recorded the highest growth in the use of e-wallets. Recently, the Vietnamese digital wallet market has achieved certain achievements and is becoming more and more popular. The state and organizations have also been realizing the potential and opportunities of this field. Through understanding and analyzing the current situation of the Vietnamese digital wallet market, it is possible to see the advantages and the difficulties and challenges that the Vietnamese e-wallet market has been facing.

Electronic payments have been popular since before COVID-19. However, the pandemic has created an explosive push for the digital wallet market. This is a new opportunity for the

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<sup>1</sup> (J.P. Morgan, 2020)



entire digital payment ecosystem, including banks and financial technology (Fintech) companies, and e-wallets to grow. More and more digital wallets are on the market with incentives to attract customers making the race more exciting than ever. Of all the current digital wallet applications in Vietnam, MoMo is one of the leaders. As one of the first wallets established in Vietnam and also a pioneer in cooperation with banks and business partners, it helps expand the ecosystem and inspires and encourages other companies participating in the Fintech (financial technology) ecosystem in Vietnam. In short, Vietnam can completely believe in the bright future for its digital wallet market.

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# CENTRAL BANK DIGITAL CURRENCY: THEORETICAL BACKGROUND, GLOBAL TRENDS AND POLICY IMPLICATIONS FOR VIETNAM

MS. Quang Hung Tran<sup>1</sup>

**Abstract:** *Central bank digital currency (CBDC) is established to provide a more viable means of regulating the digital economy, enhancing the efficiency of monetary policy management, and thus, spurring economic growth. In light of the fact that an increasing number of nations have been implementing research and development on CBDCs, it is urgent that Vietnam conduct preparatory research in order to come up with appropriate scenarios and prudent solutions to grasp the global trend. The present paper seeks to address three main objectives: (i) presenting theoretical background regarding CBDC; (ii) reviewing the CBDC research and development efforts globally; and (iii) providing policy implications to Vietnam's government in preparation for the establishment of the CBDC. The research findings suggest that it is possible for Vietnam in the near future to set proper standards and construct a complete legislative system for the management of CBDC based on the active participation and actions of different authorities. Alternatively, the adoption of a CBDC requires a thorough evaluation of the potential costs and benefits, and it must be compatible with the established practice.*

**Keywords:** *Central bank digital currency (CBDC), international experience, industry 4.0, blockchain.*

## 1. INTRODUCTION

In the era of the fourth industrial revolution, digital currency and transactions involving digital currency tend to have a significant impact on the global socio-economic environment. With the central bank's traditional fiat currency issuance and payment models exposing greater risks, the management and control of payment transactions could face major challenges, and cross-border currency transfers could threaten the stability of the payment system and national monetary security.

Central bank digital currencies (CBDC) are fiat currencies expressed in digital form and are distinct from other digital currencies (virtual money) created by private individuals or institutions. They possess numerous advantages, including being more easily and broadly accessible than reserve money, having more possible uses for retail payments than cash, having a distinct operating structure than other central bank currencies, and being able to carry interest rates. These qualities have significant effects on the global economy and the traditional banking-finance industry. CBDC offers the possibility for an efficient payment system in comparison to traditional payment systems

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with significant cash management expenses, hence lowering entry barriers for new companies in the field of pay. CBDCs also give consumers with access to financial services. Moreover, CBDC has the ability to contribute to economic growth, foster innovation and digital transformation, and build an appealing cryptocurrency environment that will not only result in increased economic activity, but can also have a ripple effect on other technological domains.

So far, CBDC has the potential to address the following issues of traditional fiat money: (i) The cost of issuing CBDCs is significantly lower than that of cash because it is done electronically, and it is not necessary to hold CBDCs in physical locations like cash; (ii) Regarding payment, CBDC has the ability to offer a secure and swift payment infrastructure for individuals, as well as an innovative, highly competitive payment system for businesses; (iii) The widespread use of CBDC in the economy will result in the central bank's monetary policy having an immediate and direct impact on the wallets of each household, an increase in the volatility of the money supply due to the low cost of circulation, and an increase in the central Bank's capacity to prevent money laundering, terrorism, and corruption.

Considering the potential opportunities of CBDCs, numerous central banks and governments throughout the world have done in-depth studies and analyses on the nature, form, and economic impact of CBDCs, as well as proposing a model fitting for the conditions of every single country. The world's leading central banks from China, France, Sweden, Canada, Japan, the EU, Switzerland and the UK are notable examples. In addition to the aforementioned typical cases, the world is also demonstrating its interest in CBDCs by publishing numerous relevant documents and documents, and some countries are indicating their intent to study CBDC trials, as evidenced by the release of the CBDC policy-making toolkit by the World Economic Forum. The Bank of England convenes a team to study design alternatives for a retail CBDC; The US Democratic bill intends to construct a digital dollar to accelerate economic recovery following the COVID-19 pandemic; the EU has established a task force to evaluate the possibilities of digital currencies helping to resolve cash supply issues. South Korea declared its aim to test a retail CBDC.

In brief, it is evident that the current rapid development of CBDCs has marked an important milestone in the transformation of traditional finance. Almost all nations are taking positive steps to prepare themselves for integration with such dominant trend of the times.

## **2. THEORETICAL FRAMEWORK**

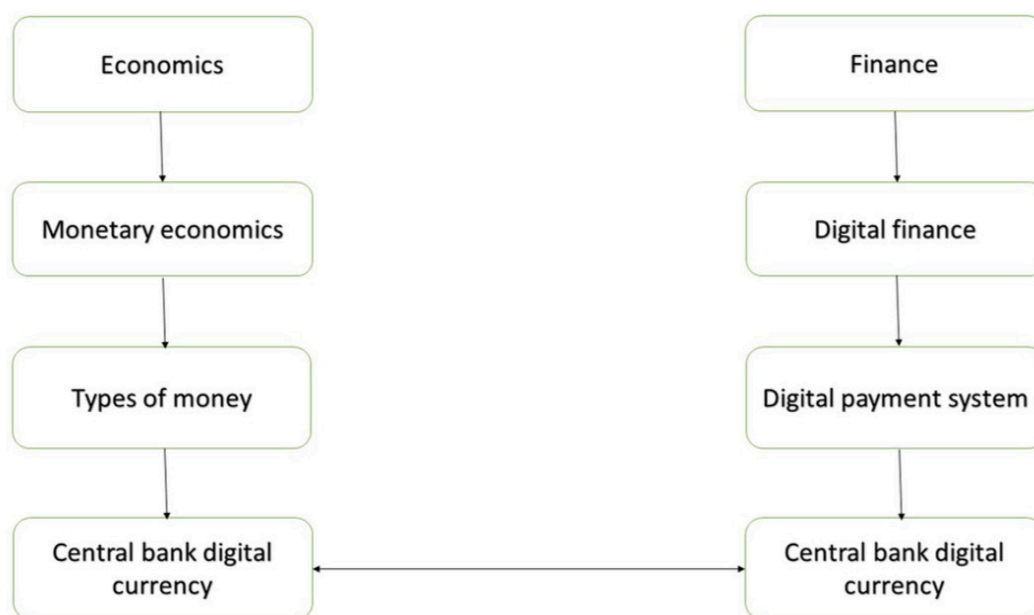
### **2.1. Definition of CBDC**

Simply put, a CBDC is a central bank-issued digital currency that is also a liability of the issuing central bank (Ozili, 2022). A layperson could view CBDCs as the digital version of paper currency issued by central banks. The literature contains more sophisticated definitions of CBDC. For instance, Ward and Rochemont (2019) define a CBDC as a digital form of central bank money distinct from traditional reserve or settlement account balances. Bitter (2020) defines a CBDC as a potentially interest-bearing, centrally issued, account-based, digital form of central bank liabilities that is publicly available. Kumhof and Noone (2018) define a CBDC as electronic central bank money that can be accessed more broadly than reserves, has significantly more functionality for retail transactions than cash, and has a distinct operational structure relative to other forms of

central bank money, allowing it to potentially serve a different core purpose. CBDC is defined by Kiff et al. (2020) as a digital version of a sovereign currency issued and backed by a central bank or other monetary authority. Bordo and Levin (2017) and Engert and Fung (2017) define a CBDC as an electronically recorded monetary value representing a central bank liability that can be utilized to make payments. Ozili (2022) describes digital currency as central bank-issued fiat digital money. Collectively, these definitions demonstrate that a CBDC is a liability of the central bank and is physically distinct from cash, despite performing the same functions as currency, such as making payments.

“Which discipline does CBDC belong to?” is a question frequently asked concerning CBDC. Theoretically, it belongs to the disciplines of finance and economics. In the field of finance, CBDC can be categorized as digital finance. Digital finance is the subfield of finance that investigates digital financial breakthroughs that permit the delivery of financial products and services via digital devices over the internet (Ozili, 2018). Consequently, CBDC can be viewed as one of the numerous developments in digital finance. CBDC can be characterized as monetary economics under the economics discipline. Monetary economics is the branch of economics that examines money, its characteristics, its operations, and the economic system’s acceptance of money (Lewis & Mizen, 2000). In the sphere of monetary economics, CBDC can therefore be considered a new form of currency. The location of CBDC in the economics and finance disciplines is depicted in Figure 1.

**Figure 1. CBDC in the economics and finance disciplines**



*Source: Ozili (2022)*

## 2.2. Motivations, challenges and risks of CBDC

There are large and diverse reasons why central banks are interested in CBDCs. The differences between emerging market economies and advanced economies are especially pronounced, but individual jurisdictions can also vary substantially based on their particular circumstances (Boar

et al., 2020). The primary research motivation for the central banks contributing to this report is the use of CBDCs as a payment method, although there are secondary motivations (e.g enhancing monetary policy tools). CBDC is not unique in its ability to satisfy a number of these motivations, and CBDC designs are likely to necessitate trade-offs that prevent all motivations from being met simultaneously.

### **2.2.1. Payment motivations and challenges**

#### **(1) Continued access to central bank money**

There is a risk that households and businesses will no longer have access to risk-free central bank money in jurisdictions where access to cash is declining. Some central banks view providing public access as an obligation, and this access may be crucial for a currency's credibility. A CBDC could act as a "digital banknote" and satisfy this requirement.

#### **(2) Resilience**

Cash serves as a backup payment method in the event that electronic systems fail to function. Nevertheless, if access to cash is restricted, it will be less useful as a backup method in the event of an emergency. A CBDC system could serve as a supplementary payment method, thereby enhancing operational resiliency. In addition, it may provide a superior method for distributing and utilizing funds in geographically remote areas or during natural disasters, as compared to cash. Nevertheless, substantial offline capabilities would need to be developed, both for the CBDC system and for any dependencies (eg some availability of electricity for mobile devices).

Counterfeiting and cyber risk pose a challenge. Cash has sophisticated anti-counterfeiting features, and major problems are uncommon. In theory, a successful cyber attack on a digital CBDC system could threaten a large number of users and their trust in the system as a whole (as it could for a large bank or payment service provider). The number of endpoints in a general purpose CBDC system will be significantly larger than those of current wholesale central bank systems, making it more difficult to defend against cyber attacks.

#### **(3) Increased payments diversity**

Similar to other infrastructure, payment systems benefit from strong network effects, which may lead to concentration and monopolies or fragmentation. There is an incentive for payment service providers to organize their platforms as closed-loop systems. When a small number of systems dominate, entry barriers and costs can be prohibitive, particularly for merchants. Where there are more systems, fragmentation may still occur due to the prevalence of proprietary messaging standards, which increases the expense and difficulty of interoperability. Due to the fragmentation of payment systems, users and merchants may incur fees and have trouble paying users of other systems. This is inconvenient and inefficient on a social level. CBDC could facilitate the transfer of information between fragmented closed-loop systems (although an accessible fast payment system can also achieve the same end).

#### **(4) Encouraging financial inclusion**

The majority of the adult population in the jurisdictions of the central banks that contributed to this report has convenient access to electronic payments. Increasing digitalisation may, however,

leave some segments of society behind due to potential barriers involving trust, digital literacy, access to IT, and data privacy concerns, thereby creating a digital divide. For central banks in a number of emerging market economies, the opportunity to promote financial inclusion is a primary motivation for researching CBDC (Boar et al., 2020).

However, for a CBDC to foster financial inclusion, it must address the varied and frequently complex causes of exclusion. Given the complexity of this issue and the possibility of underlying barriers to digital inclusion (e.g. illiteracy), any CBDC initiative would likely need to be incorporated into a broader set of reforms.

### **(5) Improving cross-border payments**

Cross-border transactions are inherently more complicated than domestic transactions. They involve additional, and in some instances numerous, participants, time zones, jurisdictions, and rules. Consequently, they are frequently slow, opaque, and expensive.

### **(6) Supporting public privacy**

The absence of centralized records of holdings or transactions is a defining characteristic of cash. Some have argued that the primary advantage a CBDC could provide is anonymity for electronic payments (Bech & Garratt, 2017).

Complete anonymity is implausible. While anti-money laundering and countering the financing of terrorism (AML/CFT) requirements are not a central bank's primary objective and will not be the primary motivation for issuing a CBDC, central banks are expected to design CBDCs that comply with these standards (along with any other regulatory expectations or disclosure laws).

Payments data will exist for a CBDC and its system, and determining who can access which parts of it and under what conditions will be a key national policy question. Striking this balance between public privacy (particularly as data protection legislation continues to evolve) and reducing illegal activity will require strong coordination with domestic government agencies (e.g. tax authorities).

### **(7) Facilitating fiscal transfers**

For some jurisdictions, the Covid-19 pandemic demonstrates the advantages of having efficient facilities for the government to swiftly transfer funds to the general public and businesses during a crisis. For these payments, a CBDC system with identified users (such as a system linked to a national digital identity scheme) could be utilized.

Although a CBDC could play a role in increasing the efficiency of fiscal transfers (particularly in jurisdictions with larger unbanked populations), it would not be necessary or sufficient on its own. Real improvement would require a digital identity system that is interconnected. Depending on the design of such a system, the incremental benefit of CBDC over transfers to (for example) commercial accounts, etc. could be small. Moreover, if fiscal transfers were made with CBDC, there would be a risk of blurring the distinction between monetary and fiscal policy as well as a potential reduction in the independence of monetary policy.

### **2.2.2. Monetary policy motivations and risks**

CPMI-MC (2018) included “interest-bearing” as one of the five essential design characteristics of a CBDC and provided a comprehensive overview of the academic debates surrounding conceptual possibilities. Theoretically, a compensated CBDC could immediately communicate policy rate changes to CBDC holders (which might also incentivise banks to pass on rates faster too). However, challenges and risks exist beyond the theoretical. In order to effectively transmit policy rates, a compensated CBDC would need to pay competitive rates and permit the public to hold substantial amounts. This could exacerbate financial stability risks associated with bank intermediation and increase the volatility of fund flows.

In addition to bearing interest, there has been public discussion regarding the use of CBDCs to stimulate aggregate demand through direct transfers to the public (so-called “helicopter drops”), possibly combined with “programmable monetary policy” (e.g. transfers with a “expiration date” or contingent on being spent on particular goods). Identifying recipients and their accounts, however, presents a significant obstacle for these transfers. A CBDC is neither necessary nor necessarily useful, and it has the potential to blur the line between monetary and fiscal policy in ways that must be better understood and mitigated. Despite the fact that a CBDC (depending on its design) offers a variety of monetary policy options, its implementation would require additional consideration. Monetary policy will not be the driving force behind the issuance of CBDC.

### **2.2.3. Financial stability risks**

#### **(1) Potential disintermediation of banks**

Depending on the design and implementation of a CBDC, there may be far-reaching effects on market structure. There is a risk of disintermediating banks or facilitating destabilizing runs on central bank money, undermining financial stability. Currently, the public can (and has in the past) run into central bank money by holding more cash, but such runs are extremely rare due to deposit insurance and bank resolution frameworks that protect retail depositors. Concern exists, however, that widespread availability of CBDC could increase the frequency and severity of such occurrences by facilitating “digital runs” on the central bank with unprecedented speed and scope (CPMI-MC, 2018). In a broader sense, if banks begin to lose deposits to CBDC over time, they may come to rely more on wholesale funding and restrict credit supply in the economy, which may have repercussions for economic growth.

The risks of disintermediation, runs on central bank money, and potential mitigants (e.g., a more “cash-like” and less “deposit-like” CBDC) have been the subject of extensive academic research. Given that jurisdictional designs and systems will vary, so will the risk, which will require extensive research by a central bank to comprehend. Before issuing CBDCs, a central bank should have robust means to mitigate any threats to financial stability.

#### **(2) Protecting monetary sovereignty**

Significant adoption of non-sovereign money could limit the effectiveness of monetary policy and the capacity to support financial stability. Stablecoins, so-called “cryptocurrencies,”



and foreign CBDCs pose the risk that domestic users will adopt them in large numbers, thereby diminishing the use of the domestic sovereign currency. Extremely, a “digital dollarisation” could result in the substitution of one national currency with another, with the domestic central bank gradually losing control over monetary matters (Brunnermeier et al., 2019).

By providing its own efficient and convenient CBDC, a central bank can reduce the possibility that alternative units of account will dominate. Alternately or additionally, a central bank could collaborate with domestic private payment providers to ensure that the domestic payment system is as efficient and as well-suited to its intended purpose as possible. Current efforts to modernize existing wholesale and retail payments infrastructure (e.g. the introduction of faster payment systems) can provide better services to the public and discourage them from using alternative payment methods. Lastly, the improvement of existing payment systems is an international principle. Existing infrastructure for international payments must be improved.

#### **2.2.4. Balancing motivations and risks**

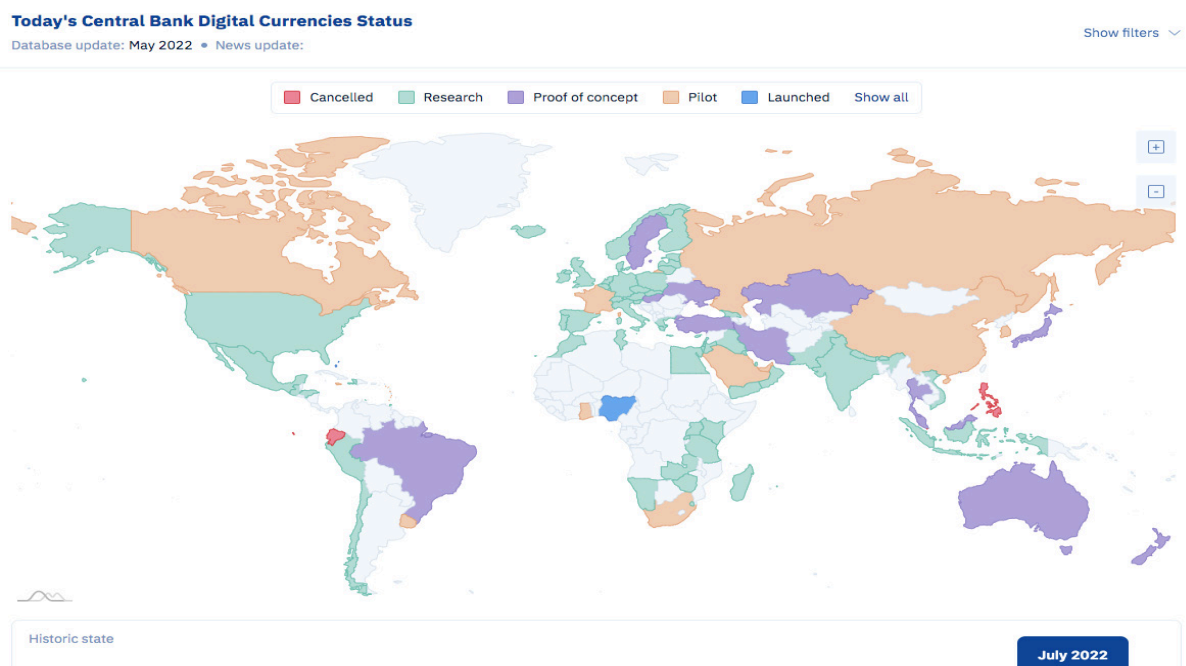
A shifting payments landscape and technological advancements can challenge central banks’ ability to carry out their public policy responsibilities. However, they also present new opportunities for improvement and the resolution of persistent problems.

A central bank’s decision to issue a CBDC will necessitate weighing the value of opportunities to further its objectives against any associated risks. The most valuable opportunities to encourage issuance will be those in which a CBDC can support the public policy objectives of a central bank. Other opportunities abound (e.g., reducing illegal activity, facilitating fiscal transfers, and enabling “programmable money”), but unless they contribute to a central bank’s goals, they will be secondary considerations.

Lastly, central banks serve regions with vastly dissimilar financial systems, economies, societies, and legal systems. The motivations and risks weighed by various central banks will differ considerably. Nevertheless, given that central banks share common objectives, it is possible for a CBDC to share common principles and requirements. These are discussed in the following section.

### **3. CBDC RESEARCH AND DEVELOPMENT EFFORTS ACROSS THE GLOBE**

In recent years, central banks across the globe have actively researched, developed, and implemented CBDC. Consequently, there are two prevalent CBDC models: (i) the retail model, in which CBDC is directly owned by consumers and businesses as a form of digital currency; and (ii) the wholesale (interbank) model, in which CBDCs are only used by financial and credit institutions for interbank settlement or settlement purposes. As observed by PwC (2022), the retail model appears well liked in emerging economies, with financial inclusion as the primary driver; whereas the wholesale model is predominant in developing nations, with a highly established interbank system and capital market foundations.

**Figure 2: Overview of CBDC status across the globe (mid-2022)**

Source: CBDC Tracker.

According to a recent report by the Bank for International Settlements (BIS), 86% of the 65 central banks surveyed have conducted CBDC-related activities, such as research, feasibility studies, or pilot programs (Barontini & Holden, 2019) (see Figure 2). In the meantime, the remaining 15% are conducting actual research for experimental coins. Specifically, the Central Bank of Ecuador started the “Dinero electrónico” (cryptocurrency) project in 2014 to enable mobile payments through a system managed by the central bank. Several central banks have initiated research studies on digital currency for various reasons since 2016. Early in 2016, the Bank of Canada initiated the Jasper project to implement distributed ledger technology (DLT) in high-value interbank payment operations (Bank of Canada, 2017). The Monetary Authority of Singapore also announced Project Ubin in 2016 with an emphasis on interbank payments, specifically a cryptographic form of the Singapore dollar on the DLT platform (MAS, 2016). The ECB and BOJ are the first central banks in the world to collaborate in 2017 to promote CBDC via the Stella initiative, concentrating on cross-border payments. Based on a survey of central banks conducted by the BIS Committee on Payments and Market Infrastructure (CPMI) at the end of 2019, Boar et al. (2020) discovered that in advanced economies, central banks are researching, implementing, and employing CBDC to enhance the safety, robustness, or efficiency of domestic payments. In poorer nations, central banks anticipate that CBDCs will bring unbanked populations into the financial system and foster economic growth.

Regarding Asian nations, China began building retail CBDCs in 2014. It became the world’s first large economy to trial a digital currency in April 2020. The successful use of the digital yuan to the purchase of goods was demonstrated by a pilot program executed concurrently in four major cities. The goal of China’s DC/EP (digital currency electronic payment) is to bring

convenience, efficiency and sustainability to the retail payment system. These benefits can further bolster the renminbi's sovereignty and internationalization. The idea has the potential to replace M1 (circulating cash, such as coins and banknotes) and can operate online and offline. The regulator does not anticipate that this scheme will replace long-term bank savings. China employs a hybrid approach to the technological design of the project, meaning that the People's Bank of China (PBOC) provides DC/EPs to commercial banks for distribution to the general public. This enables the recording of digital currency flows between users, giving the PBOC a more comprehensive perspective of money usage. The digital yuan project has reached the "advanced" test phase, as determined by PwC (2022), with more over 2 billion yuan (equal to \$300 million USD) released.

In March of 2020, the Bank of Korea (BOK) initiated a 22-month trial to investigate the potential of CBDCs. The BOK has announced that the pilot project will consist of three phases. The first phase is intended to define design and technical requirements, including the choice of technology, such as blockchain, by July of 2020. Phase 2 is designed to analyze operational processes for CBDC implementation with external partners from September 2020 to December 2020. Phase 3 involves testing the system for 12 months in a limited and virtual environment, as well as testing the platform's functionality and security. BOK issued a report in February 2021 that analyzed CBDC-related legal issues and proposed amendments to relevant laws, including the Bank of Korea Act.

In 2017, the Hong Kong Monetary Authority (HKMA) launched Project LionRock. The preliminary research findings demonstrate the immense potential for wholesale and international payments to adopt CBDC. HKMA and Bank of Thailand (BOT) launched the Inthanon-LionRock Project in 2019 to test the application of CBDC in cross-border payments. Phase 2 of the collaborative research has begun, with the objective of developing a sample software that will enable cross-border CBDC settlement and exploring a variety of use cases. This study also seeks to evolve from bilateral cross-border CBDC use cases to cases involving multiple jurisdictions and currencies. Early in January 2021, at the Asian Financial Forum, the UAE and China announced their participation in the program. Notably, the Hong Kong SAR CBDC conducted its study based on both wholesale and retail. The HKMA is collaborating closely with the PBOC to determine connectivity with China's DC/EP for cross-border payments in order to enhance Hong Kong SAR's standing as a global business hub. Foreign trade using the renminbi.

The Ubin Project and the fifth phase of the CBDC research project in Singapore will conclude on July 13, 2020. The Monetary Authority of Singapore (MAS) has announced the conclusion of a series of tests on blockchain-based payment solutions that can support multiple currencies at this stage. This final phase includes the creation of interfaces to connect to other blockchain networks. These interfaces can support a variety of use cases, including the transfer of payments to private exchanges on a reciprocal basis, conditional payments, trade escrow, and trade settlement commitments. In the future, MAS encourages cooperation with other Central Banks and has publicly declared its intention to collaborate with the People's Bank of China. After the Ubin project, several organizations, including DBS, J.P. Morgan, and Temasek, are developing a blockchain-based clearing and settlement network to improve the efficiency of wholesale payments. The network establishes its headquarters in Singapore and then expands to other jurisdictions.

The preceding practice indicates that the introduction of these coins is only a matter of time, although their widespread adoption over the coming time may be unlikely. Infrastructure-related issues, the legal framework that permits the use of CBDCs in transactions, and the scope of testing and application are still open questions that require additional time. time to respond.

#### **4. POLICY IMPLICATIONS FOR VIETNAM IN THE WAKE OF CBDC**

I believe that the acceptance of digital currencies in Vietnam may not be appropriate for the time being. However, it is crucial to construct possible scenarios and propose prudent solutions to comprehend the global trend. The reality that an increasing number of countries around the world have conducted research and pilot trials of CBDC, including Vietnam's neighboring partners such as China and ASEAN member states, would certainly have a significant impact on Vietnam, especially in the case that these partners tend to prefer payment in digital currency in the near future. Under this circumstance, Vietnam needs to stress CBDC as a new advancement for its integration process. Decisions related to CBDC need to address the questions of whether the issuance of this currency could support the State Bank of Vietnam to achieve the goals of stabilizing the currency value, ensuring the safety and efficiency of the banking system operation as well as the national payment system, thus contributing to socio-economic development.

In order to foster the emergence of CBDC in Vietnam, participation and coordination from specialized management agencies is a must in:

First, constructing, amending, and enhancing a legal corridor for electronic payment activities utilizing CBDC, facilitating the digital transformation of banks, and facilitating non-payment of payments. Review, investigate, and propose modifications and additions to a number of payment-related provisions in existing legal documents.

Second, improving the infrastructure for CBDC, with a particular focus on developing the payment systems of the State Bank; the automatic electronic clearing system for retail payment transactions in Vietnam; and strengthening the integration and connection of infrastructure and applications of the banking industry with other industries and service sectors to expand the digital ecosystem.

Third, innovating services and payment forms with CBDC contracts, such as QR Code, Tokenization, and contactless payment on mobile devices; directing the development of retail payment services and payment systems at banks; developing e-payment for e-commerce; and promoting cashless payments in rural areas in conjunction with the national strategy for financial inclusion.

Fourth, to strengthen management and oversight of significant payment systems, payment systems, new payment means and services, and cross-border payments, as well as to ensure payment activities within the economy operate in a safe and efficient manner. Using a controlled trial mechanism for Fintech activities, implement solutions to encourage innovation in banking operations.

Lastly, promoting CBDC propaganda, training, guidance, and consumer protection.

## 5. CONCLUSION

Despite potential challenges ahead, the majority of central banks around the world have carried out research or pilot projects on the CBDC model. Accordingly, a thorough evaluation of the potential benefits and risks must be implemented when considering the adoption of a CBDC. If this form of public money is accepted as a means of payment broadly, particularly in the most influential economies, this will profoundly affect major currencies as well as policy action made by central banks of other countries. To well adapt to the global trends, CBDC should be highlighted as a new demand for the integration process of Vietnam. Based on a brief recap of the grounding theory and international practice, this study offers policy directions for Vietnam's government in preparation for the introduction of the CBDC. Specifically, in the coming years, the introduction of the proper standards and comprehensive legal system for the management of CBDC is of the utmost importance. Also worth noticing is that the usage of CBDC as a mode of payment calls for a thorough assessment of the opportunities and challenges, and it must be compatible with the established practice.

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# SMALL AND MEDIUM ENTERPRISES ACCESS TO LOCAL SUPPORT POLICIES IN THE CONTEXT OF COVID-19: THE CASE OF THANH HOA PROVINCE

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**Abstract:** *Despite some accomplishments, the prior support programs of Thanh Hoa province for small and medium-sized businesses have not yet satiated their expectations in face of the COVID-19 pandemic's impacts and the world's growing interconnectedness. Based on a study of 43 agencies and 500 small and medium-sized businesses, this article examines the present state of obtaining support policies for small and medium-sized businesses. According to the survey results, the most considerable barriers to obtaining these policies are: Failure of businesses to present the necessary papers to establish their eligibility for these policies or demonstrate their ability to repay their debt when seeking credit policies; The requirements for obtaining policies are so stringent that businesses struggle to comply; The procedures and process for implementing policy are cumbersome; Generic and hazy policy implementation making it difficult to identify the conditions for support. Therefore, some recommendations are suggested to improve the effectiveness of support policies for small and medium enterprises in Thanh Hoa province.*

**Keywords:** *SMEs, Thanh Hoa province, accessing support policies.*

## 1. PROBLEM STATEMENT

Small and medium-sized enterprises (SMEs) play an essential role in boosting socio-economic growth in Vietnam. In addition to producing a high volume of commodities for society and creating numerous employment, SMEs provide a reliable source of income for a portion of the population and exploit local resources and potentials. On the other hand, SMEs play a supporting and complementary role for large enterprises to form a link for competition. The most significant contribution of SMEs is employment creation and social labor restructuring [1]. From 2020 onwards, SMEs have inevitably faced difficulties and challenges due to the economic integration and the impact of the COVID-19 pandemic. Due to the epidemic situation, many SMEs have had to halt, suspend, or even stop operations. These businesses are also on the verge of going out of business due to a sudden drop in market demand that has resulted in lower revenue as well as the risks of debt collection and insolvency [2].

In 2021, in Thanh Hoa province, 336 firms were dissolved (210% increase over the previous year); 1.505 enterprises temporarily suspended operations (25,3% increase compared to the previous year). In general, enterprises that are temporarily suspended or dissolved are mainly micro-

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Office of the National parliamentary delegation and People's Council of Thanh Hoa Province

enterprises with registered charter capital of less than 3 billion VND; SMEs most affected by the pandemic are those engaged in wholesale, retail, construction, processing, and manufacturing [3]. Upon this situation, the People's Committee of Thanh Hoa province has also issued many policies for SMEs to improve their production and business efficiency, in addition to the government's measures to assist SMEs, especially for several specific fields such as the energy industry and processing and manufacturing; high value-added agriculture; logistics. However, SMEs still have to face many difficulties, especially in accessing such policies. According to the author's survey data, the percentage of firms obtaining advantages from the policy remains low; many enterprises are unaware of these support measures.

To identify the problems and obstacles for SMEs in accessing Thanh Hoa province's support policies, the article examines the current state of accessing support policies for SMEs and identifies the primary obstacles for firms when accessing support policies. Therefore, the author proposes some suggestions to make it easier for SMEs to utilize the province's assistance policies.

## **2. RESEARCH METHODS**

### **2.1. Data collection method**

The questionnaire survey method is employed to collect data to assess the current status of accessing support policies. The questionnaire was developed based on consultation with experts who are managers in government authorities and leaders in SMEs. The data for the study was directly surveyed by 2 questionnaires for government authorities and by leaders of 500 SMEs in Thanh Hoa province. Of which 43 votes represent local authorities in 27 districts; 13 departments; 3 organizations, business associations, and 500 SMEs in the province. The number of SMEs operating in Thanh Hoa province as of December 31<sup>st</sup>, 2022 is 19.376 [3], according to the formula for determining the sample size of Yamane (1967) with a 95% confidence interval, the minimum number of samples to ensure representativeness is 434 enterprises, so that the study sample can remain its representativeness. In addition, the author collects legal documents on support policies for SMEs in Thanh Hoa province and analyzes the results of policy implementation based on secondary data from the report of the Thanh Hoa Provincial People's Committee.

### **2.2. Data analysis method**

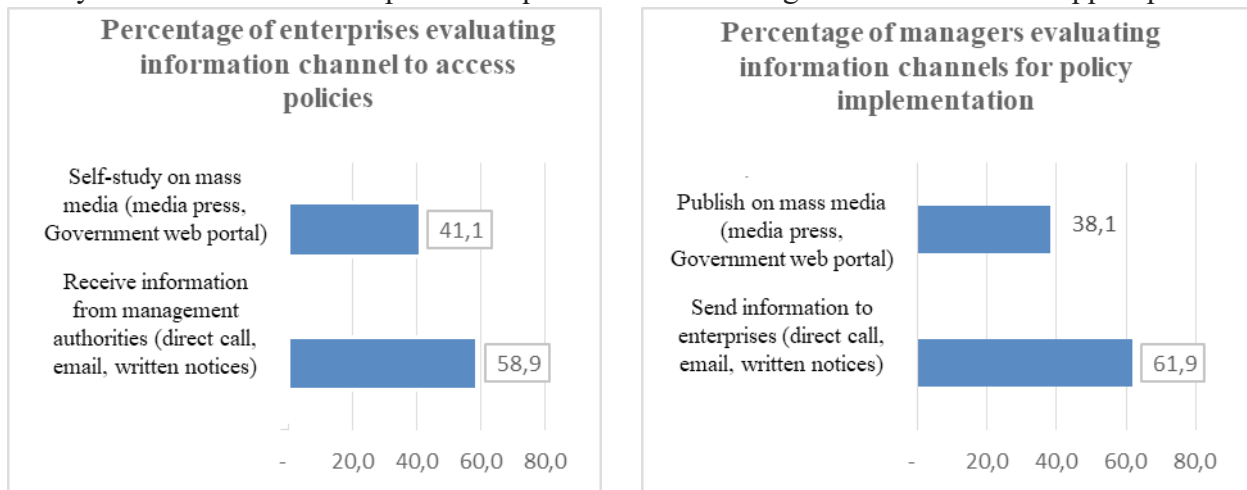
Regarding the survey form for management authorities (departments and agencies), all 43 votes are valid and 42 entities have implemented/ have been implementing support policies for SMEs, 1 entity is said not to implement such policy (Department of Health). Thus, the number of votes for evaluation and analysis is only counted on 42 valid votes. Regarding the survey form for 500 enterprises, 365 SMEs responded that their businesses have been or are subject to SME assistance policies, whereas 135 SMEs claimed they were not. As a result, 365 SMEs were subjected to analysis and assessment of their present access to assistance policies. Based on the data, descriptive and comparative statistics methods are employed to determine the assessment of local authorities, departments, and SMEs on the current status of accessing provincial support policies for SMEs. So that the author can identify the difficulties and barriers for enterprises in accessing local support policies.



**3. CURRENT STATUS OF ACCESSING LOCAL SUPPORT POLICIES FOR SMES IN THANH HOA PROVINCE IN THE CONTEXT OF COVID-19 PANDEMIC**

**3.1. Evaluation of information channels to deploy/access support policy documents**

According to the survey result of 365 SMEs receiving local support policies, enterprises have access to support policy documents from two channels: From the management authorities and self-study on mass media. Among 365 SMEs, 58,9% of SMEs receive information from management authorities (215 SMEs), and 41,1% of SMEs receive it from mass media (150 SMEs). The above survey results show that enterprises are quite active in seeking information about support policies.

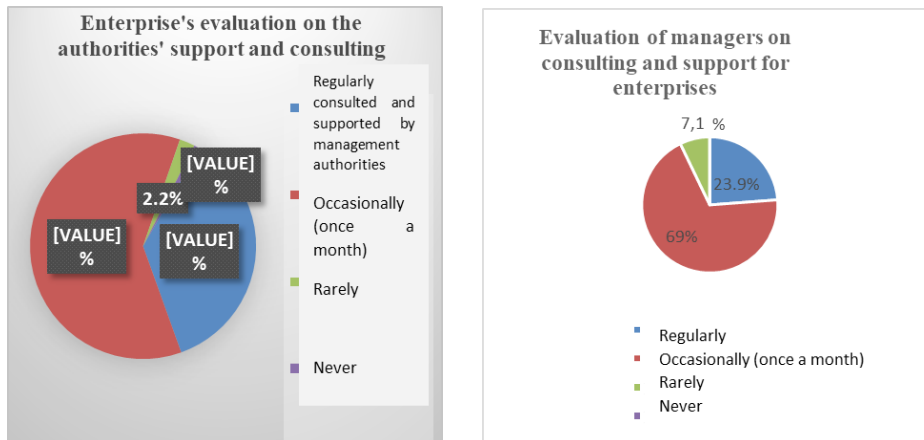


**Diagram 1: Percentage of enterprises and managers evaluating information channels for the implementation of support policies for SMEs in Thanh Hoa province**

The survey result for management authorities is quite similar to the survey result for enterprises. It shows that the method of implementing support policies for enterprises is mainly sending information to enterprises (via direct phone calls, emails, and written notices) which accounts for 61,9% (26 management authorities). The approach of policy implementation through publication on mass media sites such as the media or the agency’s website yielded 38,1% of the results (16 votes from the management agency). Thanh Hoa province has established several assistance measures for SMEs in light of the COVID-19 pandemic’s significant impact on economic activity. Although many businesses are aware of such rules, many are unsure how to address them. The reason is that most of them believe obtaining support policies will be difficult. In addition, many enterprises haven’t had a specific department to study legal documents; policy updates are also not frequent.

**3.2. Evaluation of business support consulting**

Based on the survey of managers of authorities and SMEs on consulting, supporting enterprises in the process of implementing policies such as actively communicating with enterprises to get the situation, receive, consult and support enterprises, most of them said that this support happens occasionally (once per month). On the business side, 60,8% of them stated that the support happens once per month, while 69% of managers showed that departments and agencies have support once per month and then provide timely advice and support.

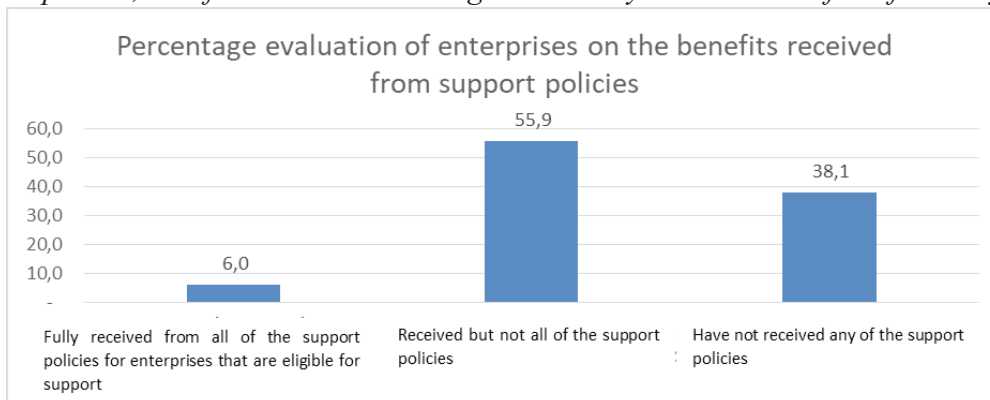


**Diagram 2: Evaluation of enterprises and managers on the consulting, supporting in the process of implementing support policies in Thanh Hoa province**

The study results also suggest that the percentage of management agencies that frequently advise and help firms are low (23,9 % of managers assessed and 36,2 % of enterprises assessed it), even 2,2% of enterprises stated that they rarely receive support and 0,8% said they never receive consult and support. This finding is comparable to the management staff’s view; while they believe they help companies, 7,1 % of managers believe it is seldom feasible to give advice and support to enterprises in the process of obtaining and implementing policies. The above survey results reveal that, despite departments and agencies’ worries about consulting and supporting, it has not been executed on a regular and continuous basis; there is still a situation in which the policy is merely deployed but no explicit instructions for companies are provided. Propaganda and dissemination of policies to get enterprises to understand on benefits of policies have not been widely disseminated; there is no department to guide support policies in the province.

**3.3. Evaluation of the efficiency of policies**

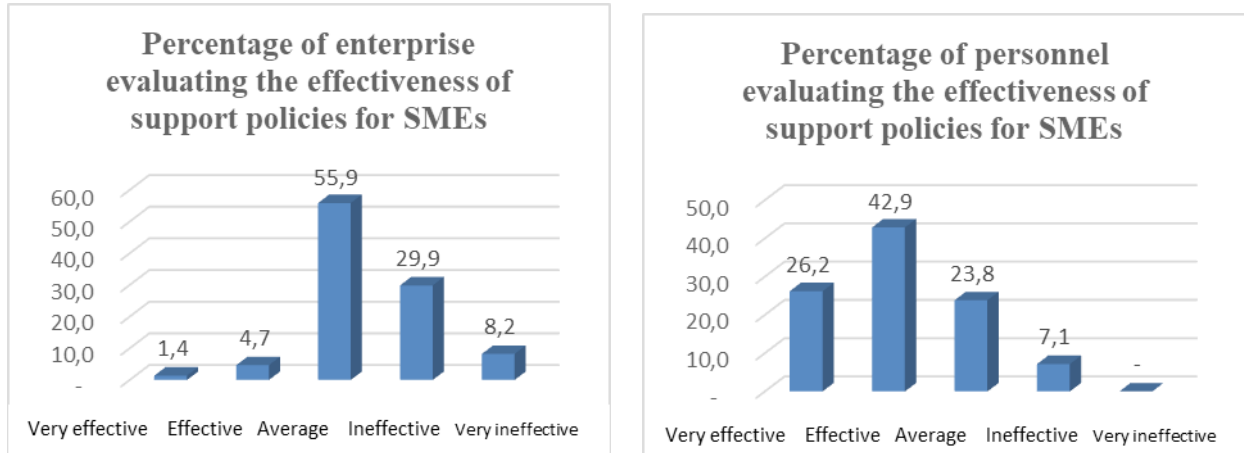
*Based on the survey result of enterprises on the benefits received from support policies, 6 percent of them said that they received full benefits from all of the support policies, which were eligible to support, while the number of enterprises only benefits from some policies accounted for 55,9% and up to 38,1% of businesses were eligible but they have not benefited from any policies.*



**Diagram 3: Evaluation of businesses on benefits from province’s support policies**

There are reasons why SMEs have not benefited from policies: Businesses lack sufficient documentation to demonstrate their eligibility for the regime (56,8%); Businesses are unable to prove their capacity to repay debts (36%). In addition, there are some possible reasons from the authorities, including the policy processing department’s continued tardiness (7,2%) and refusal to approve despite the availability of sufficient documentation (45,3%); The departments do not follow the correct procedures and processes (18%) even though any supporting policy also stipulates specific beneficiaries. However, not all beneficial businesses are eligible because the processes and procedures are still tedious and rigorous; also, due to the ongoing Covid pandemic, preparing and providing necessary supporting paperwork to benefit from the policy is particularly challenging.

Regarding the efficiency of policies to support SMEs in Thanh Hoa province in recent years, based on the survey result from businesses and management agencies, there is a significant difference in the perspective between the two parties. Most of the opinions from the businesses (55,9%) said that the efficiency of support policies was normal (not noticeably), only 6,1% rated them effective and very effective, and the rest 38.1% rated ineffective and very ineffective. Meanwhile, 69,1% of the government management personnel said that the support policies were effective and very effective and none of them rated it as very ineffective. Only 7,1% of them thought that the support policies were ineffective. This result shows a subjective perception of the policy issuer and policy beneficiaries. This is also a difficult point in the assessment to propose to improve the effectiveness of the policy in the next stages.



**Diagram 4: Evaluation of enterprises and managers on the effectiveness of support policies**

**3.4. Difficulties in the process of implementing and executing support policies for SMEs**

In addition to the criteria of difficulties in the process of implementing and executing support policies for SMEs of the province, the survey result also shows that the main reason is that enterprises cannot provide documents to prove their ability to repay their debts (61,9%), the enterprise cannot provide documents to prove they are eligible for the support policies (54,8%), strict regulations to enjoy support policies which make enterprises very hard to meet the requirements and cumbersome procedures (23,8%) and 14,3% considered that the police department is still slow in handling and resolving. Additionally, there are still some views that the policies that have been released are still unspecific, making it difficult to determine the conditions under which businesses will receive

support. Additionally, there has been no official announcement of any guidelines for identifying beneficiaries or business-specific requirements.

**Table 1: Assessment of enterprises and managers on difficulties in the process of implementing support policies for SMEs**

<i>Difficulties in the process of implementing and executing support policies for SMEs</i>	<b>Manager's opinion</b>		<b>Enterprise's opinion</b>	
	Vote	%	Vote	%
Enterprise cannot provide documents to prove they are eligible for the support policies	23	54.8	150	41.1
Enterprises cannot provide documents to prove their ability to repay their debts (for credit support package)	26	61.9	182	49.9
Strict regulations to enjoy the support policies that enterprises can hardly meet such conditions	10	23.8	197	54.0
Officials have not enthusiastically supported	5	11.9	57	15.6
Slow handling problem	6	14.3	38	10.4
Cumbersome process, procedure	10	23.8	97	26.6
General and unclear issued policies that make it difficult to determine support conditions for enterprises	3	7.1	112	30.7
Enterprises are also not informed about specific guidelines in determining beneficiaries and specific requirements for enterprises	1	2.4	21	5.8

The tight restrictions that must be followed to benefit from the policies are the most cited factor from the viewpoint of businesses, making it challenging for them to satisfy the requirements (54%). The second reason is that enterprises cannot provide documents to prove their ability to repay their debts (for credit support package) (49,9%) and the third reason is that enterprises cannot provide documents to prove they are eligible for the support policies (41,1%). In addition, 30,7% of the surveyed enterprises said that the issued policies are still general, and unclear, making it difficult to determine the conditions to be supported for enterprises, and the process and procedures are still cumbersome (26,6%).

Thus, according to the survey result, both management authorities and enterprises believe that the main difficulty for enterprises is that they cannot fully provide documents to prove they are eligible to enjoy support policies or to prove their ability to repay their debts. Also, strict regulations which make it hard for enterprises to meet the conditions are the main reason proposed by the enterprises. In addition, cumbersome processes and procedures as well as general and unclear issued policies make it hard for enterprises to determine the conditions for support.

#### **4. CONCLUSION AND POLICY IMPLICATIONS**

Although Thanh Hoa province had previously issued several assistance policies for SMEs and many SMEs had been successful in overcoming their challenges as a result of these policies during the COVID-19 epidemic. Enterprises might still face a variety of challenges and restrictions when trying to obtain support policies, though. Therefore, soon, it will be required to take certain actions to get beyond these restrictions to increase policy access, such as:

*Businesses:* Establish a department to examine legal documents; enhance management

capabilities; build a group of skilled human resources; be transparent in information and records to easily access credit relations and receive support policies. To get support policies, it is important to proactively identify support policies that are appropriate for each sector and area, to quickly address business inquiries, and to have particular orientations to address challenges.

*Management authorities:* Strengthen propaganda and policy dissemination to help businesses catch up on support policies promptly; establish and assign specific responsibilities to the legal support department to advise and guide enterprises to enjoy support policies; simplify processes and procedures; specify policy objects in a specific and clear way; regularly conduct policy evaluation in a proactive, methodical and timely manner to adjust the policy to suit reality and different beneficiaries. The Covid 19 epidemic will continue to have an impact on the global economy in general and Thanh Hoa's economy in particular in 2022. The actions taken by the entire nation to stop the disease's spread have had a substantial impact on the operations of SMEs. Therefore, the involvement of local authorities in creating institutions and policies to help companies is vitally crucial to eliminate obstacles and expand access to policies. Each business has to increase capacity and knowledge to access policies more readily, in addition to strengthening policies and refining the environment to support commercial operations.

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# PROMOTING TECHNOLOGY TRANSFER AND DIFFUSION FROM FOREIGN DIRECT INVESTMENT IN VIETNAM

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**Abstract:** *This paper aims to investigate the reasons explaining why technology transfer and diffusion from foreign direct investment (FDI) in Vietnam has been limited. It starts by describing the theoretical mechanism of technology diffusion from FDI and the factors affecting the diffusion. It then analyzes the reasons for limited technology diffusion from FDI in Vietnam from intentional and unintentional channels. Based on the analysis, some policy recommendations are given to promote technology diffusion from FDI in Vietnam in the year to come.*

**Keywords:** *Foreign direct investment, Technology diffusion, Vietnam*

## 1. INTRODUCTION

Starting from an agricultural country with surplus labor but lack of capital, right from the early years of implementing the Doi Moi policy and economic opening, Vietnam has focused on attracting foreign direct investment (FDI) to create jobs, increase income and develop the country's economy. Now, 35 years later, the contribution of FDI to the industrialization and modernization of Vietnam has been increasingly confirmed. However, the perspective upon the role of FDI in our country in the new era is no longer like that of previous decades, but rather needs to be a new mindset associated with the rapid changes of the world economy, especially with the Industrial revolution 4.0, the long-term consequences of the Covid-19 pandemic, the shifts of the global order, and the never-ending geopolitical tensions.

In other words, we cannot forever exploit traditional benefits or solely rely on FDI to supplement savings and investment capital for the country. Instead, we must find ways to extract the other substantial benefits that FDI brings, including technology transfer and knowledge spillover. This is a great benefit that Vietnam has not extracted much from the FDI sector for more than three decades. In the coming period, especially when Vietnam is aiming for the vision of 2045 to become a high-income developed country, the capacity for traditional benefits will not remain significant, instead, we will have to find ways to extract the immense potential benefits from the knowledge and technology spillover brought about by FDI. This is also the spirit of Politburo's Resolution 50 on the orientation to complete institutions, policies, and to improve the quality and efficiency of foreign investment cooperation by 2030.

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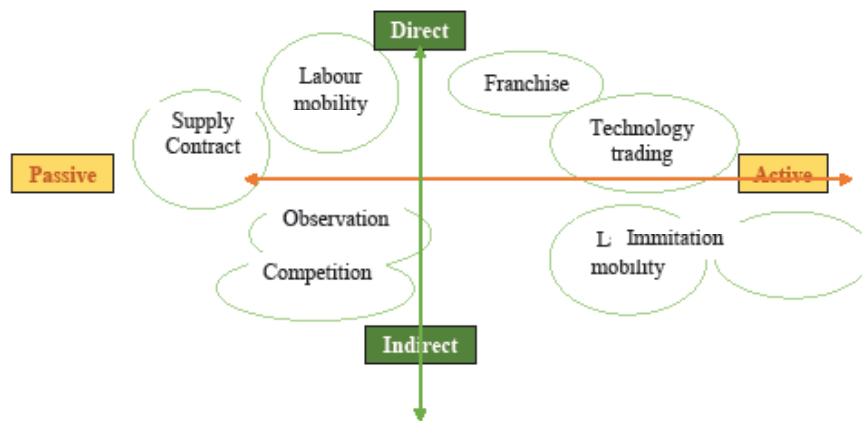
Vinh Phuc Provincial Party Committee

## **2. THEORETICAL BASIS**

### **2.1. Foreign direct investment as a channel for technology transfer and diffusion**

It is shown that FDI is considered as one of the technology transfer channels, but the technology diffusion mechanism differs in each country and enterprise. The ability to learn, absorb and diffuse technology depends a lot on the level of exposure to technology actively, i.e., intentionally or passively, i.e. unintentionally. Active technology diffusion occurs when stakeholders participate in the formal technology transfer process in the form of franchising, technology trading, installation guidance, operation or implementation of the capacity training program with the intention of the seller, which is understood as an FDI enterprise, with the buyer, being a domestic enterprise, organization or individual. Vietnam's Law on Technology Transfer 2017 defines "technology transfer as the transfer of the ownership of technology or the transfer of the right to use technology from the party having the right to transfer the technology to the party receiving the technology." This definition only implies the intentional transfer of technology, but not the unintentional transfer.

Technology transfer and diffusion often occur in the technology market where domestic enterprises and foreign technology suppliers directly meet or, through agencies, negotiate, determine their own prices and establish relations of sale, exchange, and transfer of technology according to market conditions. The benefit of this channel is that the technology diffusion process takes place quickly, directly responds to the needs of the transferee, and is methodically consulted, trained, and guided on how to operate the technology by the transferor. However, for this diffusion channel to take place, domestic enterprises must have a need for technology procurement and especially have initial financial resources to invest and operate technology. Small and medium-sized enterprises often with weak financial capacity and difficult access to bank capital will find it difficult to participate in this spillover channel without the support of the state. Meanwhile, large enterprises with abundant financial potential are only motivated to participate when their competitive advantages are based on talent, technology, and the need for self-innovation instead of relying on the availability of privileges. In other words, technology diffusion is demand, reflected in the need for investment, upgrading, and technological innovation of domestic enterprises. Moreover, the technologies that are franchised or purchased today can quickly become obsolete, especially in the context of the rapid progress of the scientific and technological revolution, then businesses have to reinvest, repurchase. In the long run, if you want to master technology to do research, improve and upgrade technology yourself, it requires domestic enterprises to have research and development (R&D) capacity.



**Figure 1: Technology diffusion matrix**

*Source: Author's rendition*

Meanwhile, passive or unintentional technology spillover is the process in which technology is spread from the holder of technology to other entities directly or indirectly through the interaction process, together with working, discussing, exchanging ideas, collaborating, producing, etc. There are many unintentional technology spillover mechanisms, of which can be divided into three main cases: (i) production linkage, (ii) labor mobility, and (iii) observation and imitation. For example, when Vietnamese workers work in FDI enterprises, they can observe, learn, be trained and take in the way of production, organization, and operation of enterprises. These workers then leave FDI enterprises to work for domestic enterprises or set up their own companies and reuse their knowledge, skills and experience attained while working for those foreign enterprises, or even become a partner of the business they used to work for. With the production linkage mechanism, when Vietnamese enterprises participate in the supply chain or produce outsourcing for FDI enterprises, these enterprises must meet the production, technology or technical standards set by their partners or be guided, through which the opportunity to grasp and understand more about the partner's technologies. Another spillover mechanism is that domestic enterprises can observe, learn and imitate production models, product design, branding, supply chain management, business administration, and so on... from the competitors themselves, which are FDI enterprises. Compared with intentional spillover, unintentional spillover takes more time for technology or knowledge to produce an observable effect. In addition, to be able to learn and absorb technology according to the above mechanisms requires adequate ability to learn, absorb and adapt to domestic workers and businesses.

## **1.2. Factors promoting technology transfer and diffusion from foreign direct investment**

Studies indicate a number of important factors play a role in promoting the diffusion of technology, which the two most important are: (i) appropriate incentive institutions, and (ii) ability to absorb the technology of recipients. In particular, the institutional incentives include government policies and regulations to protect property rights, intellectual property rights, policies to promote competition and research, improve, and enhance innovation; promote the development of the technology market; setting increasingly higher standards on production, business, environment, and production technology in order to put pressure on enterprises to pursue a strategy of continuous technology improvement; parallel with the implementation of preferential policies on finance,



access to capital, taxes, subsidies, etc. Meanwhile, the absorptive capacity of the technology recipient is related to the available capacity of human capital, including the ability to observe, learn, grasp, and apply technology to the actual conditions of the business, as well as the ability to master and improve technology.

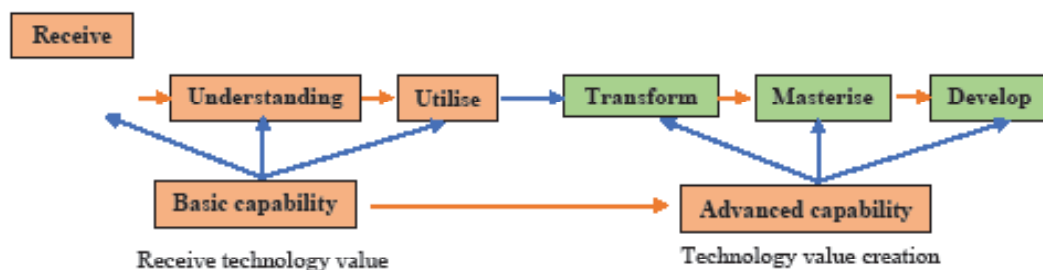
**1.2.1. Appropriate incentive institution**

The role of institutions, whether formal or informal rules, in economic development is increasingly highlighted in development theories. A good institution, includes basic features such as effectively establishing and protecting the property rights of people and businesses, transparent and accountable government, ensuring a fair business environment, business freedom, and competition promotion, swift dispute resolution, effective enforcement of contracts, etc... Good institutions help create confidence in people and businesses in a friendly and stable business environment, with a sense of security, thereby encouraging larger-scale and longer-term investments. Good institutions are also one of the important conditions to encourage technology transfer and diffusion from outside.

When FDI enterprises have confidence in the business environment of the host country, they will boldly make large investments, apply many modern technologies, be ready to establish long-term partnerships and share technologies with domestic partners. In contrast, when institutions are poor, only small-scale FDI enterprises come to invest with short-term business plans, mainly using outdated technology with low productivity and competitiveness. Not only from the supply side, but from the demand side, good institutions also promote competitiveness in business, which put domestic enterprises under competitive pressure and therefore must strive to innovate and upgrade continuously to have a competitive advantage in order to survive. This raises the need to increase learning and technology acquisition instead of trying to seek privilege as prevalent in weak institutions.

**1.2.2. Absorption capacity**

Absorption capacity is the ability to learn, absorb and apply technology of partners or domestic economic entities. The ability to learn depends on the quality of human capital or the quality of human resources expressed in previously known relevant knowledge, training, or instruction. Absorption capacity can be divided into two levels: basic and advanced. At the basic level, absorptive capacity includes the ability to observe, recognize, absorb, and practice the knowledge being taught. At a higher level, absorptive capacity is the ability to extract, customize, improve, transform, develop something new from what is directed.



**Figure 2: Levels of Technology Absorption capacity**

*Source: Author's rendition*

There are many factors that determine the ability to absorb technology, such as labor quality, R&D capacity, enterprise's willingness to innovate, technology market availability, technology level gap. In addition, macro and institutional factors also play an important role, such as economic liberalization, opening and integration policy, competition policy, government support policies such as taxation and depreciation, macro stability, and also the quality of the judiciary system.

## **2. WHY TECHNOLOGY TRANSFER AND DIFFUSION FROM FOREIGN DIRECT INVESTMENT IN VIETNAM IS STILL LIMITED?**

### **2.1. For the intentional transfer channel: the defect of the technology market**

The main cause of the intentional transfer channel is the defect of the technology market. A mature technology market includes the availability of multiple technology providers as well as technology experts, consultants, and brokers, the availability of information, the effectiveness of the transaction institutions and pricing, contract enforcement mechanisms, protection of property rights and intellectual property rights of the parties involved. A look back at the Vietnamese technology market shows that we are lacking in many conditions, especially from the supply side. This is because Vietnam's research, creation, and technology manufacturing capacity is not high. Meanwhile, the participation of foreign technology suppliers in an underdeveloped technology market with the lack of development support and encouragement institutions like Vietnam is very limited. In addition, the technology market itself has inherent failures due to the nature of technology products that are prone to problems of plagiarism and imitation. Therefore, it is crucial for the participation of the state to protect intellectual property rights. However, the reality shows that the establishment and protection of property ownership in Vietnam are not good, from the registration procedure with a lengthy and complicated process, even after registration, the property rights are not guaranteed to be protected from disputes or rampant plagiarism.

Viewed from the supply side are FDI enterprises, in the first decades, Vietnam's FDI attraction policy has not been aimed at enterprises with technological potential and the ability to diffuse. The government's policies to attract FDI are in the direction of en masse, lack of selection, while localities compete over each other with many preferential mechanisms, such as land and tax relief, and even accept enterprises using outdated technology in order to attract FDI to the home province. Policies to encourage FDI into the high-tech sector are still unattractive and out of sync with other policies, such as the policy of training highly qualified human resources and a focused R&D spending policy.

Furthermore, even after attracting FDI with relatively high technology, such as Intel, Nidec, Samsung, etc., technology transfer does not happen automatically. We know that these businesses holding technology will have a monopoly position and will therefore seek to exploit those benefits of that technology, as such there is little incentive to share or transfer it to others, unless the transfer price outweighs the potential benefits of exploiting the technology. In addition, technology transfer usually takes place when the enterprise holding the technology has been able to upgrade or develop new technology. Therefore, the transferred technologies, if any, are often secondary, second-rate, or even obsolete technologies. Evaluations in Vietnam show that the proportion of FDI enterprises using technology from Europe and the United States accounts for only about 6%, while with Chinese technology is up to 30-45%. The proportion of FDI enterprises using technology from the year 2000 to 2005 accounts for more than 65%, while production technology in recent years only accounts for 15%. Regarding technology level, the proportion of FDI enterprises using high technology accounts

for only 5%, while 80% of enterprises use medium technology, the rest use low technology<sup>1</sup>.

Besides, some studies suggest that technology transfer takes place when the technology copyright holder is not able to apply or commercialize that technology. FDI enterprises investing in Vietnam have the capacity for financial and technology commercialization, so they do not have the need to transfer technology to Vietnamese partners or any other party. Even some FDI enterprises may have been technology buyers abroad and they come to Vietnam only to apply or commercialize that technology, not for the purpose of reselling that technology. In some cases, FDI enterprises investing in Vietnam continue to purchase foreign technology rights, often in the form of rights for extracting but in reality are actually owned by the parent company or a company in the same ecosystem owned by that corporation, and therefore pay a hefty royalty fee, often identified by tax authorities as a form of transfer pricing. Therefore, asking the question of technology transfer to FDI enterprises is not always the right way to put the problem.

The reality of Vietnam shows that over the past decade, high-tech FDI inflows have moved into Vietnam more and more. Nowadays, many of the world's leading high-tech companies have been present in Vietnam such as Fujitsu, Intel, LG, Microsoft, Nidec, Panasonic, Sanyo, Samsung, Sony, Toshiba, etc... However, the degree of linkage with the value chain of high technology with Vietnamese enterprises is very faint, technology diffusion from these corporations is very limited.

Meanwhile, on the demand side, most Vietnamese enterprises are of medium, small, and micro scale, not to mention nearly 6 million individual business households, with limited financial potential and no ability to access technology, especially modern technology. These businesses operate in narrow market segments and ranges, mainly taking advantage of an abundant workforce, low capital investment, and low costs. Moreover, investment in technology is often quite expensive, requires a long amortization and payback period, and is not suitable for a business environment that is often volatile in terms of both macroeconomic and policy factors. This has limited the long-term investment needs of enterprises, especially for modern technologies with high commercialization risk.

Besides, due to the low technology background compared to the world technology level, the demand for technology investment or technology transfer of Vietnamese domestic enterprises is quite low. This is because there are many barriers and costs that businesses have to pay to apply technology, such as retraining of human resources, not to mention the hesitation about the unclear benefits of public investment. Even if businesses have the need and financial capacity to invest in technology, the first obstacle that arises is that they do not know where to find channels to access technology. This once again shows how the defect of the technology market in Vietnam is giving rise to many barriers restricting participation from both the supply side and the demand side.

### **2.3. For the unintentional transfer channel: the limitation of technology absorption capacity**

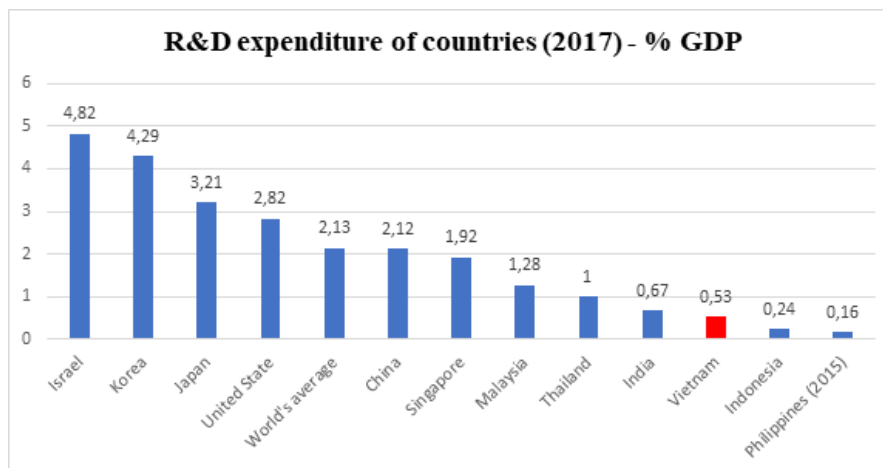
As analyzed above, the ability to transfer technology depends not only on the incentives of the transferor but also on the capacity of the transferee. No one transfers to a partner who has no need or no capacity. As pointed out, the majority of Vietnamese enterprises are small, medium or even micro-sized. These enterprises are active in many small and fragmented fields, mainly using simple, low-productivity labor. Many domestic enterprises operate in isolation in the domestic market, with little connection to FDI enterprises, while the one supplying for foreign enterprises are mainly simple outsourcing, lack the ability to design and develop their own products.

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1 <https://moit.gov.vn/khoa-hoc-va-cong-nghe/chuyen-giao-cong-nghe-tu-fdi-chua-nhu-mong-doi2.html>.

Although there are still many domestic enterprises involved in supplying for FDI enterprises, they are mainly tier 2 and tier 3 suppliers, providing indirect supply, without the opportunity to access or share core technologies or the partner's source technology. However, except for a few multinational corporations, most FDI enterprises operating in Vietnam are only in labor-intensive rather than technology-intensive industries, so opportunities to learn and acquire new knowledge are not many. Meanwhile, the level of labor and R&D capacity of Vietnamese enterprises are also extremely limited. Assessments show that the ratio of R&D human resources to the population of Vietnam is relatively low compared to other countries, equivalent to only 20% of the EU average, 7.6% of Korea, 29.8% for Malaysia, or 58% for Thailand. Vietnam's R&D human resources mainly work in the state sector at the rate of 84.13%, while the non-state sector accounts for only 13.8%. It is the gap in human resources and R&D capacity between Vietnam and other countries, leading to limited technology absorption capacity.

In addition, institutional and policy shortcomings also contribute significantly to poor absorption capacity. For example, when the institution of contract protection and intellectual property rights is not adequate, enterprises will be less motivated to invest in R&D due to the suspicion that their research results may be imitated or that the contract disputes are not resolved in a reliable way. Due to the positive external effects of scientific and technological knowledge, governments often have to participate in subsidizing such activities. However, the reality in Vietnam shows that the state spending on science and technology in general and R&D in particular is still quite modest compared to the average of the world as well as several countries in the region. The Law on Science and Technology (LST2013) stipulates that the State ensures spending on science and technology from 2% or more of the total annual state budget expenditure and increases gradually according to the development requirements of the science and technology cause. However, after nearly 10 years since this regulation was issued, the rate of spending on science and technology is only approximately 2% of the total annual state budget expenditure. Research shows that R&D investment to optimize productivity in the long run is between 2.3 and 2.6% of GDP in developing economies. However, currently, Vietnam's R&D spending accounts for only about 0.5% of GDP. Of which, spending from the state budget accounts for 57%, domestic enterprises is 41% and foreign enterprises is 2%.



**Figure 3: Vietnam R&D expenditure compare to some countries**

*Source: World Bank's data*

In fact, the Government has implemented several policies to improve national technological capacity and support enterprises to invest and upgrade technology. For example, LST2013 stipulates the maximum support level of 30% of investment capital for projects of enterprises applying the results of implementing science and technology research to create new products or improve productivity, quality and competitiveness of the products from the results of performing science and technology research; support up to 50% of investment capital for projects implemented in difficult socio-economic areas, extremely difficult socio-economic areas; support up to 50% of investment capital for projects performing priority national science and technology research and key fields of the State. However, the results achieved in practice are very limited.

In addition to direct funding and financial support, the Government also directly establishes funds such as the National Fund for Technology Innovation (NATIF) or the National Fund for Science and Technology Development (NAFOSTED). However, the operation of these funds has not yet achieved the desired results due to the limited budget size in addition to the large administrative drawbacks. While it is necessary to further strengthen the role of the state, in 2017 these funds no longer received operational funding support from the state budget but had to be autonomous. Along with the activities of funds, many activities to encourage innovation at the national and local levels have been promoted, but the results have not been commensurate with expectations.

Universities and research institutes are assigned tasks of scientific research, technology transfer and application on the basis of investment capital from the state budget and other mobilized sources. However, the operational results of these scientific institutions are still limited compared to the goals and tasks set for them. Many assessments show that state research institutes play a limited role in leading basic research. This is due to the weak capacity of research institutes. Statistics show that in 2019, out of 30 state research institutes, only one was ranked in the top 8,000 state research institutes in the world. Similarly, Vietnam also has only 3 universities in the top 1,000 research universities. Many Vietnamese universities mainly focus on training, while research activities are still very limited.

Meanwhile, the link between research institutions and enterprises or technology markets is still weak. The reason is from both the research institutions and the market or business side. Enterprises have not seen the importance of R&D activities and have not fully realized the role of knowledge in their innovation capacity and competitiveness. On the universities and research institutes side, due to limited training and research capacity, business confidence in these institutions is not high. The level of trained labor is low compared to other countries' standards, leading to the ability to attract only low-level FDI enterprises. For high-level human resources, especially managerial, strategic, and high-tech experts, are often recruited by FDI enterprises from abroad, leading to reduced opportunities to access technology, especially management skills or experience, advanced technology techniques through unintentional transfer channels.

### **3. POLICY RECOMMENDATION**

#### **3.1. Improve on institutions, law system and related policies**

Institutions play an extremely important role, helping to create a favorable environment for technology transfer and diffusion activities to take place in the fastest and most cost-effective

way. Institutional reform is not a solution with immediate results, but it will have long-term effects. Policies that need to be promoted include setting more specific standards in a selective FDI attraction strategy; instead of mass incentives, it is necessary to focus these incentives on FDI enterprises holding modern, core and source technologies with a commitment to technology transfer suitable to industries with competitive advantages in Vietnam. The government needs to improve the effectiveness of the legal system to effectively protect property rights, industrial property rights, intellectual property rights, inventions, and industrial inventions, and avoid design infringement, branding and other property rights of people and businesses. State budget spending needs to go up for the mentioned institutions, including retraining of law enforcement officials, optimization of court processes and procedures, and enforcement capacity.

The same for the legal process, ensuring effective enforcement of contracts, avoiding lengthy disputes, consuming time and costs for the parties involved. In addition, the Government should continue to strongly promote the development of the technology market, encouraging the participation of suppliers, technology experts, consultants and technology brokers. The government also needs to build a national database of technology information and technology transaction value with regular updates to support the connection of supply and demand in the technology market. At the same time, it is necessary to promote mechanisms for providing information, market prices, tax policies and asset depreciation, including intangible assets and intellectual property. In addition, it is necessary to improve customs and tax policies to support purchase, sale, import, installation, reception, testing, operation, technology transfer, etc... Furthermore, the Government also needs to promulgate and supervise the implementation of standards on the import of equipment and technology, avoiding the reception of outdated technologies that cause environmental pollution discharged by countries in the process of industrial upgrading.

### **3.2. Enhance technology absorption capacity**

To improve technology absorption capacity, the Government needs to have a strategy to upgrade the national technology level with focus, increase spending on science and technology, support the R&D capacity of enterprises, and promote training programs for high quality labor. First of all, according to the next 5-10 year roadmap, the Government needs to increase the R&D spending to approach the average level of the world as well as other countries in the region, equivalent to 2% of GDP. Instead of designing policies in a mass fashion, some developing localities or some sectors and fields may have an earlier roadmap. State spending should act as a primer and guide. State-supported universities and research institutes must play a more active role and make commitments to achieve results associated with a specific roadmap, otherwise, they will be forced to compete with private research organizations to receive grants and orders from the state budget. Strengthen linkages between businesses and research institutes and universities for consulting, research, and technology transfer associated with human resource training according to demand. Tax incentives or access to resources such as land and preferential credit will have to be associated with outputs as specific products of these linkages and cooperation.

Instead of spreading out, resources should be concentrated and prioritized for potential organizations, especially for enterprises, whether public or private, whose products and capabilities are tested through competitive processes and market selection. It is important to ensure a competitive

and transparent subsidy mechanism, to set goals with a specific set of performance evaluation criteria to promote the efforts of enterprises and the accountability of public authorities. Meanwhile, the focus of technology absorption capacity is the quality of human capital, i.e. the level of labor, which must also be raised commensurately. A strategy to improve the quality of human resources on the basis of upgrading the quality of higher education and vocational education is essential. The Government should encourage through specific mechanisms for research-oriented universities, strengthen advanced higher education programs, international standards, and training for talented engineers in a number of fields, areas that are compatible with selective FDI attraction policies. At the same time, the Government also needs to be more open in its policy to attract international experts to work in Vietnam, creating opportunities for domestic workers to learn from experience, share knowledge and skills.

**Table 1: Objectives of technology transfer, mastery and development of Vietnam**

	2025	2030
Foreign technology database	4.000	10.000
Number of technologies transferred	400	1.000
Number of technologies decoded, mastered	10	30
Number of officials and technicians... trained in technology search, decoding...	4.000	10.000
International network of technology partners	200	500
FDI with technology transfer (average increase/year)	10%	15%
Percentage of enterprises producing key products in priority industries with R&D infrastructure investment	30%	70%

*Source: Summary the Prime Minister's from Decision number 138/QĐ-TTg dated January 26, 2022 of*

Recently, the Prime Minister has implemented the project on “*Promoting technology transfer, mastering and development from abroad to Vietnam in priority sectors and fields for the period up to 2025, with orientation to 2030*”. Accordingly, many specific targets have been set by the Government (see Table 1) which, if well implemented, is expected to bring a positive boost to Vietnam’s long-term economic growth in the future.

#### 4. CONCLUSION

The contributions of FDI to Vietnam’s economic growth and industrialization over the past 35 years of Doi Moi policy are undeniable. However, the benefits of FDI in addition to creating jobs or exporting, but also transferring and diffusion of technology, Vietnam has not been able to take advantage of much, if not very limited. This is due to both supply and demand defects of the technology market, but institutional quality, human resources, and weak R&D capacity are also important factors explaining these limitations. In the coming period, due to limited capacity, Vietnam cannot continue to exploit the benefits brought by FDI similarly to previous decades, but must take advantage of this area to learn, import, and transfer and enhance national technological potential. However, this does not mean that we continue to wait for the “favors” brought by FDI, but more importantly, we have to strengthen our own capacity to absorb technology on the basis of improving the quality of human capital, increasing R&D spending and creating new technology-friendly institutions. Only in this way can Vietnam achieve rapid and sustainable growth like

successful industrialized countries, soon achieving the vision of becoming a high-income developed country before 2045 as stated in the Resolution of the XIII Party Congress./.

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# ISSUES IN MULTIDIMENSIONAL POVERTY MEASUREMENT METHODS

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*Abstract: Poverty is considered a multidimensional matter. Poverty needs to be seen as a shortage or dissatisfaction of basic human needs (both physical and non-physical such as employment, healthcare, education, and access to social services). This research actively approaches “multidimensional poverty” from a holistic and comprehensive point of view. Nowadays, the Alkire and Foster (AF) method is widely used in Vietnam to measure multidimensional poverty, caused by its simplicity and popularity. This method allows scientists to recognize which indexes are poor in the improved relationship with other poverty dimensions so that to identify the causes of multidimensional poverty, and to recommend which dimension and index should be improved to sustainably alleviate the poverty status.*

**Keywords:** *poverty, poverty alleviation, multidimensional poverty alleviation*

## 1. INTRODUCTION

Poverty is one of the major barriers that reduce the ability of people, communities, and countries to develop. The poor generally do not have access to social services such as employment, healthcare, education, housing, living water and sanitation, information, etc., and that makes them less likely to get out of poverty on their own. Fundamentally, poverty means being denied basic human rights, and being pushed to the margins of society, not just low income. Reality has proven that assessing poverty based on income alone is not enough because the nature of poverty is not only income but also many other factors. There are many people who are not poor in terms of income but do not have access to basic services in healthcare, education, information, and so on. Therefore, the poor themselves also feel the “*multidimensionality of poverty*”.

Accordingly, poverty is a multidimensional concept because, at the same time, the poor can face many disadvantages such as poor health services, education, housing, clean water, electric lights, etc., or unmet life’s minimum needs. The income criteria should not be used to assess whether a subject is poor, but we should have a multi-dimensional view of this issue. Multidimensional poverty is also a lack of opportunities, a lack of power, capabilities, and being vulnerable.

Consequently, *multidimensional poverty can be understood as a situation where people cannot meet one or several of the following basic needs in life.*

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**Table 1: Life's basic needs**

Need	UNDP	WB	Vietnam
<b>Physical Needs</b>	Limited access to private and social resources	Low income	Low income
<b>Education</b>	Lack of basic education	Material deprivation is the lack of access to education and healthcare	Limited access to education
<b>Healthcare</b>	Low expectancy		Limited access to healthcare services Insufficient health insurance coverage
Life Quality	X	Higher level of life risks Silence and powerlessness	Housing area is not guaranteed Lack of hygienic drinking water Limited access to information
Employment	X	X	Many dependents in the family

Source: UNDP (1997), WB (2000), NĐ 07/2021/NĐ-CP 2021 -2025

Looking at the above summary table, the basic differences between the above three views are as follows:

- From the perspective of the **United Nations (UNDP)**, poverty considers the constraints of human development, with particular emphasis on health conditions, education, and access to resources.
- **The World Bank (WB)** has added two more criteria: life risks and people's voices.
- **Vietnam's** point of view has mentioned the following factors: Employment, income, and basic human needs.

Thus, approaching poverty in a multi-dimensional way is completely suitable with the current conditions when the quality of society has been improved, people are not only interested in material needs anymore but they are also interested in opportunities for holistic personal development.

## 2. LITERATURE REVIEW

### 2.1. Overview of Foreign Studies

Anand and Sen, in their research "*Concepts or human development and poverty! A multidimensional perspective*" (Anand & Sen, 1997), explain poverty by multidimensional indexes. In addition to income and expenditure, poverty is also measured by accessibility in other aspects such as *food, housing, education, healthcare, and other social living standards, even non-physical indicators*. In other words, poverty is reflected by the lack of social welfare in different aspects and these multi-dimensional indexes are related and interact with each other.

Wagle in "*Multidimensional Poverty Measurement with Economic Well-being Capability, and Social Inclusion: A Case from Kathmandu, Nepal*" (Wagle, 2005) argues that it is necessary to promote policies that focus on preparing skilled human resources, creating job opportunities, making education the focus because educated people are less likely to be poor because they have good decisions for life. The author used simultaneously material indexes (economic welfare),

capacity and social inclusion (health, education, quality of life) to build the multidimensional poverty hypothesis.

In 2007, two authors Alkire and J. Foster (Alkire & Foster, 2007) through a journal named “*Counting and multidimensional poverty measures*”, introduce the Multidimensional Poverty Index (MPI) method to measure multidimensional poverty. In 2008, Batana applied Alkire and Foster’s method to the study “*Multidimensional measurement of poverty in Sub-Saharan Africa*” (Batana, 2008) which allows the scientist to estimate multidimensional poverty in 14 sub-Saharan African countries. The poverty measure is selected from a set of thresholds that are reasonable enough that deprivations in the dimensions reflect the welfare and poverty dimensions, and the MDGs are appropriate for providing poverty identification results. The proposed method is suitable for measuring poverty in developing countries such as sub-Saharan Africa.

The two authors Santos and Ura launched the study “*Multidimensional Poverty in Bhutan: Estimates and Policy Implications*” (Santos & Ura, 2008) to estimate multidimensional poverty in Bhutan by applying a newly developed method of AF considering **5 dimensions to estimate in both** rural and urban areas: **income, education, available accommodation, access to electricity, and access to drinking water**; two additional dimensions that are only considered in rural areas are: **Entrance and land ownership**. The estimation in the study is divided into rural and urban areas. The method is proposed as a potential formula to measure national poverty and allocate budgets among localities, sectors, and fields.

In the study “*Measuring Multidimensional Poverty in India: A New Proposal*” (Alkire & Seth, 2008), Alkire và Seth used an individual household deprivation index based on India’s National Health and Family Survey (NFHS-3) data from 2002 (referred to as the Below the Poverty Line – BPL). Specifically, the study shows a way to determine whether households fall into poverty through 13 socio-economic parameters including land size, type of house, food security, clothing, sanitation, education, means of livelihood, and debt. Alkire and Seth assert that identifying the poor using their BPL Index is both effective and provides insight into aspects of poverty in different states, from which more effective poverty reduction policies can be made.

On multidimensional poverty analysis from the individual aspect, Zahra and Zafar in the study “*Marginality and Multidimensional Poverty: A Case Study of Christian Community of Lahore, Pakistan*” (Zahra & Zafar, 2015), through a self-reported survey, collected a sample of 1,800 individuals from the Christian community of the city of Lahore. This study identifies **07 aspects** of poverty including **standard of living, environment, assets, education, healthcare, livelihood**, and above all **social exclusion**. The research result shows that these classes are caught in a cycle of poverty, and poor socio-economic infrastructure does not allow them to escape poverty.

Asselin the work “*Analysis of multidimensional poverty. Theory and case studies*” (Asselin, 2009) clearly analyzed poverty perspectives and used many different poverty measures to build a Composite Indicator of Poverty (CIP). By applying CIP from poverty structure analysis, Asselin shows **10 indexes** including **income, education, healthcare, food/nutrition, sanitation/clean water, labor/employment, housing, access to productive assets, access to markets, and social participation** to measure the poverty of a person or a family.

With the multidimensional measurement method, the authors Alkire and Santos built the Multidimensional Poverty Index (MPI) in the study “*Acute multidimensional poverty: a new index for developing countries*” (Alkire & Santos, 2010). Accordingly, MPI includes **3** poverty dimensions: **health, education, and living conditions**; and **10** indexes: **property ownership, floor material, electricity, water, sanitation, cooking fuel, children going to school, years of schooling, child mortality rate, nutrition**. Poverty dimensions are equally weighted in one poverty dimension. The MPI shows how short an individual or household was at a given time, they are said to be poor if they were short of 30% or more share of the indexes.

Also, with the multidimensional poverty approach, in the “*Counting and multidimensional poverty measurement*” study (Alkire & Foster, 2007), the authors Alkire and Foster developed a measurement method to identify the poor by looking at aspects of people’s lives where basic needs may not be fully met or so-called deprivation. Based on those deficiencies, the authors have compiled a set of criteria to reflect poverty in society according to different groups. Next, Alkire and Foster gave criteria to determine poverty dimensions including **economic wealth, economic ability, and three other social sub-dimensions**.

In “*National report on human development 2011 - Social services for human development*” (UNDP, 2011), UNDP distinguished the similarities and differences when measuring poverty in terms of multidimensional poverty with monetary poverty. **Healthcare, Education, and Living Standards are the three dimensions of poverty used to measure multidimensional poverty with nine indexes** (households have no assets, no money for medical treatment; households with people who have not finished primary school...). The household will be a multidimensionally poor household if it lacks **two of the nine** indexes. The report examines many challenges that Vietnam is facing in accessing basic social services and shows that rising economic inequality is accompanied by persistent disparities in indicators about basic education and healthcare.

In 2012, the World Bank with “*Vietnam Poverty Assessment Report 2012: A good start but incompleteness, Vietnam’s impressive achievements in poverty alleviation and new challenges*” (World Bank, 2012) pointed out that, Vietnam has used **six** different poverty assessment methods, of which **four** methods apply multi-dimensional poverty approach and from there to offer solutions to alleviate poverty **such as creating livelihoods for the poor, supporting to use services in education, healthcare, living conditions, and environment, access to information, and so on**. Therefore, to alleviate poverty, it is necessary to have policies to help poor households solve these problems so that they can have better livelihood capital.

Paola Ballon and Mauricio Apablaza in the study “*Multidimensional Poverty Dynamics in Indonesia*” (Ballon & Apablaza, 2012) developed the content and criteria for multidimensional poverty assessment and applied in Indonesia. Accordingly, poverty is calculated on **five dimensions** (Housing, Education, Health, Basic Services, and Resources) and **twelve aspects** (Shelter, Illiteracy, School attendance; Nutrition; Disease status, Vulnerability, Access to clean drinking water, Access to electricity, Access to improved sanitation, Waste treatment, Assets, and Income).

In 2016, using the Alkire and Foster method, Y. Wang, and B. Wang, in the study “*Multidimensional poverty measure and analysis: A case study from Hechi City, China*” (Wang & Wang, 2016), measured and assessed multidimensional poverty using the MPI index with Chinese

characteristics, combining a longitudinal analysis approach, GIS spatial analysis in different geographical and socio-economic conditions. The result of empirical research from 11 districts of Hechi city shows that there are at least four aspects of poverty (**housing, health, education, living conditions**) with **ten basic indicators**, of which **three factors are important**. The main factors contributing to poverty are unstable housing, family health, and adult illiteracy, while secondary factors include fuel type, child enrolment rate, etc. These factors are strongly correlated.

Also approaching poverty measurement by Alkire – Foster method, in 2018, Mohanty et al in the study “*Multidimensional poverty in regions: Shan and Chin in Myanmar*” (Mohanty, et al., 2018), used survey data from 4,290 poor households to measure poverty **with 5 dimensions and 12 indexes: (1) Education; (2) Health; (3) Quality of life; (4) Energy, clean water and sanitation; and (5) Basic rights**. Multidimensional poverty is significantly higher for rural households, households with low levels of education, the consumer poor, and those living in Chin. Therefore, the study recommends that poverty alleviation programs should be designed first based on overall information on poverty, followed by different aspects of multidimensional poverty as well as identifying factors that contribute to MPI for effective program planning and implementation.

Y. Lu et al, in the study “*Multidimensional poverty analysis at the local level in northwest Yunnan Province, China: Some insights and implications*” (Lu, et al., 2019), also used the AF method. The study collected information on 647 household questionnaires from 08 towns in Deqin County. The authors have designed a poverty measurement index system consisting of **five dimensions and fifteen indexes based** on previous research, local conditions, and ethnic characteristics, specifically: **(1) Education; (2) Healthcare; (3) Living conditions (4) Social relations; and (5) Property**. The authors have confirmed that their research using the multidimensional poverty measurement method has yielded some important findings such as multidimensional poverty shows regional differences; the index of each poverty dimension has certain different contributions to multidimensional poverty; the result of allowing people to self-assess will be able to identify their real needs, avoid wasting resources and ensure people’s satisfaction with poverty alleviation.

Looking at the overall studies from the perspective of analyzing deprivation dimensions, it is clear that multidimensional poverty is related to deprivation in different aspects. The identification of indexes constituting the poverty measurement index is a big challenge in terms of the theoretical and methodological basis, as this selection will directly affect the results of the multidimensional poverty assessment.

## 2.2. Overview of Domestic Studies

In 2009, Asselin in his research “*Analysis of multidimensional poverty: Theory and case studies*” (Asselin, 2009), argued that poverty includes any form of inequality in the distribution of necessary living conditions, which is the source of social exclusion (the living conditions necessary to meet the basic needs of individuals, households and communities are measured across **10 dimensions: income, education, health, nutrition, clean water, employment, housing, access to productive resources, market access and community participation copper**). Asselin concluded that multidimensional poverty measurement methodology is feasible, opening the way for more frequent monitoring of poverty reduction policies. Also using PCA and MCA methods in

their research, Tran Tien Khai and Nguyen Ngoc Danh in the study “*Identifying multidimensional poverty indicators for rural households in Vietnam*” (Tran & Nguyen, 2014) identified a multidimensional poverty measurement index for rural households in Vietnam since livelihood approach. From the information of 6,750 rural households extracted from the 2010 Vietnam Household Living Standard (VHLSS 2010) survey data (VHLSS 2010), the study identified **16 livelihood asset variables representing 10 available measures for multidimensional poverty**. The authors have used these indexes to measure multidimensional poverty that will provide a deeper understanding of economic status as well as social life, revealing the characteristics of rural households compared to rural households, comparing to unidirectional approach. The above studies focused on identifying measurement indexes based on secondary data sources, as a result, the indicators used in measuring and assessing multidimensional poverty are not common.

Many studies focus on analyzing the status of deprivation and the relationship between the deprivation dimensions. Based on available data from VHLSS in 2010 and 2012, Le et al in the study “*Multidimensional Poverty: First Evidence from Vietnam*” (Le, et al., 2014), measured multidimensional poverty in Vietnam in **five dimensions: health care, education, insurance and social support, living conditions, access to information and social participation**. Their research showed a gap in poverty alleviation policies when policies to support health, education and living conditions do not cover all the disadvantaged groups, thus needing a combination of both income and living standards. income and multidimensional poverty rate.

In 2020, Pham et al in the study “*Multidimensional poverty reduction by administrative sector targets: a case study in Vietnam*” (Pham, et al., 2020), analysed **seven dimensions** of poverty in Vietnam: **income, healthcare, education, housing, assets, basic services, and economic status**. The empirical result of the study showed that in Vietnam there are many areas where people are better in income aspects but worse in some non-income aspects. On that basis, it is recommended that poverty alleviation policies must be implemented in accordance with each target group and each area according to the characteristics of common shortages.

The analysis of multidimensional poverty to propose solutions has not been studied based on the local socio-economic background to propose a scale, but mainly analysed according to the scale proposed by the Ministry of Labour, Invalids and Social Affairs.

### 3. METHODOLOGY

Desk research is used as the main method in this paper to evaluate existing research and is based on theoretical developments and advances in methodology. And the increased availability of micro-level data has facilitated empirical research on multidimensional poverty. Thanks to that analysis, it has served as a document to help many countries make policies based on the calculation of the multidimensional poverty index.

- The desk analysis helped the author to point out that the aspects constituting the multidimensional poverty index have close relationships with each other so that readers will realize that to solve the problem of poverty, a complete and synchronous policy system is required. And from that, it will be shown that the multidimensional poverty alleviation policy should be developed depending on the deficiency characteristics of the component in the multidimensional poverty index.

- With the desk analysis, I argued that up to now there is no consensus on the best measure to measure and evaluate, but widely used is an extension method of AF. Accordingly, multidimensional poverty is related to deprivation in each aspect and is aggregated into an index called the Multidimensional Poverty Index (MPI), which reflects the multidimensional poverty rate and the extent of deprivation of the multidimensional poor.

Performing the MPI calculation implies several important decisions regarding its indexes: determining the set of indexes to include in the assessment, choosing a set of variables or indexes that reflect each dimension, then building and applying cuts for each index, assigning weights, and setting poverty cut-off points.

### 3.1. Recent multidimensional poverty measures in the world

#### 3.1.1. Alkire and Foster's Multidimensional Poverty Measure

##### *a. International Multidimensional Poverty Index (MPI)*

MPI method has been initially applied in nearly 20 countries (Indonesia, Colombia, Mexico...) and calculated according to Alkire and Foster's method published in UNDP "Human Development Report 2010". The MPI measures poverty across **three essential dimensions** of life, namely: **health, education, and standard of living**. The indexes in each dimension of poverty are being shared across countries around the world. The MPI allows determining what percentage of the population of each country is facing poverty from a human development perspective. It shows the number of poor in each dimension of deprivation, and, on average, how many dimensions of deprivation the poor face or the intensity of multidimensional poverty has impacted the poor. MPI uses multidimensional scalar indexes to represent information from multiple dimensions missing in a composite number. It allows scientists to define a single ranking of countries, regions, or households/individuals, although rankings based on each dimension may be different; At the same time, comparisons can be made between different points in time. These are important features for determining policy priorities for individuals/households or regions, and they allow poverty to be tracked over time, as well as its impact on policy.

The MPI is described in detail in the following table:

**Table 2: Multidimensional poverty indexes**

<b>Health</b>	At least one member is malnourished
	One or more children died
<b>Education</b>	No one studied for 5 years
	At least one child, who is old enough, not go to school
<b>Living Condition</b>	No electricity
	No clean water
	No adequate sanitation system
	Shabby house
	Using dirty ingredients for cooking
	No car or essential assets (bicycle, motorbike, phone, etc.)

*Source: UNDP (2010)*

*b. Some measures of multidimensional poverty according to Alkire and Foster*

There are 03 approaches to measuring multidimensional poverty: measuring multidimensional poverty in terms of breadth, depth, and aggregation.

- Poverty in breadth measurement:

$$H = \frac{q}{n}$$

- **q**: total number of people in poverty
- **n**: total population

- Poverty in depth measurement:

$$A = \frac{\sum_i^q c}{qd}$$

- **c**: total number of weighted deprivations that the poor have
- **d**: total number of component indexes to be considered

- Poverty aggregation measurement:

$$MPI = H * A$$

*c. Some advantages and disadvantages of the MPI*

*\* Advantages*

- This index provides a holistic and undiscriminated view of poverty dimensions across population groups and geographic regions. Hence, across groups and regions and at different stages of development can be easily made.

- The index shows correlations between multiple dimensions of poverty status. The information from this correlation analysis will foster management agencies to make more effective support policies by properly assessing the poor, in the right direction, and in terms of their deprivation. This will help the local government to be highly effective in reducing poverty in the locality because it directs the right resources to the poor. In addition, from multi-dimensional poverty monitoring, it is possible to assess the different needs of households, some of which may need to be supported better by local authorities and organizations than the rest of the needs.

*\* Disadvantages*

Alkire and Foster's multidimensional poverty measurement measures poverty on three dimensions: **health, education, and living conditions**. In this way of measuring, there are some limitations:

- Factors used include output input and iterative indexes. So the data is not available for all aspects. In addition, the MPI is less sensitive to small fluctuations, because to be considered multidimensional poverty, a household must lack at least six indicators related to the essential needs of life, or three indicators related to essential needs, and one indicator related to health or education.

- This multidimensional poverty measurement lacks the material dimension. This dimension is essential to be included to identify multidimensional poverty. Income is an essential factor and a condition for solving the remaining dimension shortage.



- In assessing the health dimension, the two authors only considered the initial conditions of child malnutrition and the death of children, but do not take into account conditions such as nutrition, disease status, etc. In the situation that the world is developing and constantly moving, so these criteria are still too simple and need to be supplemented to be suitable for Vietnam.

- In the way of assessing the dimension of living conditions, there is an extremely important criterion that is the criterion of access to information or telecommunications services.

### 3.1.2. Paola Ballon and Mauricio Apablaza's Multidimensional Poverty Measure

#### a. The content of the measure

In 2007, in the article: “*Multidimensional Poverty Dynamics in Indonesia*”, two economists Paola Ballon and Mauricio Apablaza gave the content and criteria for multidimensional poverty assessment and applied it in Indonesia. Accordingly, poverty was calculated on **five dimensions** and **12 criteria** (specific criteria in the table below). In addition, the above study also analyzed the change in time, and the chronicity of poverty over a period of 13 years.

**Table 3: Multidimensional poverty measurement criteria in Indonesia**

Dimension	Criteria	Deficiency threshold	
<b>Housing</b>	Shelter	Walls, floors, roofs - missing at least 2 criteria: walls or floors made of bamboo or roofs made of palm leaves.	
	Illiteration	At least 1 adult (15 years or older) is illiterate or has less than 5 years of schooling.	
<b>Education</b>	Going to school	At least 1 member between the ages of 6 and 15 not attending school.	
	Nutrition	An adult or a child in the household being malnourished	
	Illness condition	At least 1 adult (aged 15 years or older) has had at least 3 out of 12 acute epidemics.	
<b>Health</b>	Ease of change	At least one adult member (15 years old) is experiencing at least 4 out of 7 physical transformation problems.	
	<b>Basic services</b>	Access to clean drinking water	Unable to access to safe drinking water or walk for more than 30 minutes.
		Access to electricity	No electricity.
		Access to improved hygiene	Sanitary facilities are not improved or shared with households.
Waste Treatment	Garbage is not collected or burned and disposed of in the river.		
<b>Resources</b>	Assets	Household does not own any large assets and owns < 4 small assets.	
	Income	Per capita monthly consumption is below the poverty line.	

Source: Paola Ballon and Mauricio Apablaza (2007)

#### b. Paola Ballon and Mauricio Apablaza's multidimensional poverty measure method

Since the time factor has been included in the analysis, the multidimensional poverty measurement formula in Indonesia by two authors from OPHI is as follows:

$$M_0^c = H^c * A^c * D^c$$

With:

$M_0^c M_0^c$ : poverty index from a multidimensional point of view

$H^c H^c$ : percentage of people in multidimensional poverty

$A^c A^c$ : average severity of people in chronic multidimensional poverty

$D^c D^c$ : average length of time people are in multidimensional poverty

*c. Some advantages and disadvantages of Paola Ballon and Mauricio Apablaza's multidimensional poverty measurement in Indonesia*

*\* Advantages*

Multidimensional poverty measurement in Indonesia also used the Alkire and Foster (AF) method as its main foundation. The AF method in a dynamic context allows analysing of poverty under the above four elements

- Identify people's deprivations in specific dimensions of wellbeing
- Allow understanding changes in poverty across time (cross-section)
- Identify those that are chronically poor (panel-data)
- Account for the duration of poverty.

*\* Disadvantages*

Our study considers five domains (12 indicators) of intrinsic importance, comprising education, housing, basic services, health issues, and material resources. Our analysis indicates that although Indonesia has made great progress towards the reduction of income poverty and the improvement of social indicators, challenges remain when the joint distribution of deprivations is considered.

### **3.2. The current multidimensional poverty measure in Vietnam**

Vietnam officially applied the multidimensional poverty assessment from 2016 to 2020. On September 15, 2015, the Prime Minister issued Decision No.1614/QD-TTg approving the Master Plan "*Converting the poverty measurement method from unidimensional to multidimensional for the period of 2016 – 2020*"; On November 19, 2015, the Prime Minister issued Decision No. 59/2015/QD-TTg on the multi-dimensional poverty line applied for the period 2016 - 2020. Measuring and implementing poverty reduction policies in a multidimensional approach requires a more comprehensive approach in all fields and factors such as education, health care, housing conditions, resources, domestic water, and information. However, the multidimensional poverty assessment method according to the standards of the Government of Vietnam for the period 2016-2020 still has some limitations because the selected indexes have not yet fully reflected all aspects of life. Measuring poverty requires benchmarking options, whereas part of the basic measure for assessing multidimensional poverty requires careful consideration of empirical options. The finalization of a poverty measure can be based on empirical alternatives and is constructed using various reasonable parameters. On January 27, 2021, the Government issued Decree No. 07/2021/ND-CP stipulating the multi-dimensional poverty line for the period of 2021 - 2025, accordingly

adding an additional measurement dimension of “*employment*” with two indexes (i.e. employment and numbers of dependents in the household), as well as raising the income criteria to a higher level and starting to apply from 2022.

**In fact, multidimensional poverty measurement in Vietnam is currently applying the AF method because of its simplicity and popularity.** Accordingly, Vietnam used six dimensions to measure poverty, including **Employment, Education, Healthcare, Housing, Living Conditions, and Access to Information**. As the matter of fact, poverty is measured based on income criteria such as minimum standard of living in terms of income, poverty line in terms of income, the average standard of living in terms of income, and lack of access to basic social services. Two criteria to define a multidimensionally poor household are income and basic social services:

- ***Income criteria:*** Being a household with an average monthly income of 1,500,000 VND or less and lacking at least three indexes measuring the level of basic social service shortage. And urban areas: A household with a monthly per capita income of 2,000,000 VND or less and lacking at least three indicators measuring the level of basic social service shortage.

- ***Criteria for the degree of lack of basic social services (six services)*** includes employment; healthcare; education; housing; water and sanitation; information. Indicators measure the extent of basic social service shortage (*12 indicators*), including employment; dependents in the household; nutrition; Health Insurance; adult education level; children’s school attendance; housing quality; housing area per capita; domestic water source; hygienic latrines; use telecommunications services; means of access to information.

Also, this Decree stipulates the near-poor household standard for rural areas: A household with an average monthly income of 1,500,000 VND or less and lacks three indicators measuring the level of poverty. And urban areas: A household with a monthly per capita income of 2,000,000 VND or less and lacking less than 3 indicators measuring the level of basic social service shortage.

Standard household with average living standards for rural areas: household with an average monthly income of over 1,500,000 VND to 2,250,000 VND; in urban areas: household with an income per capita/month is over 2,000,000 VND to 3,000,000 VND.

The above-mentioned poverty line, near-poor household, and the average standard of living standards are the basis for measuring and monitoring the lack of income and basic social services of the people; is the basis for identifying subjects to implement policies on poverty reduction, social security and planning other socio-economic policies in the period of 2022 - 2025.

**Table 4: Poverty dimensions and measurement criteria in Vietnam for the period 2022-2025**

<b>Basic Social Services</b> (Difference of Deficit)	<b>lack of basic social services measure index</b>	<b>Deficiency threshold</b>
<b>1. Employment</b>	Employment	Household with at least one person without a job (a person of working age who is able to work, is willing/willing to work but cannot find a job); or have a salaried job but no employment contract*. <i>(* Consider regular, regular, stable or relatively stable employment.</i>
	Dependents in the household	Households with a dependency ratio of more than 50% of the total population. Dependents include children under 16 years old; elderly people or people with disabilities who are receiving monthly social allowances.
<b>2. Healthcare</b>	<b>Nutrition</b>	Household with at least one child under the age of 16 who is malnourished for height-for-age or malnourished for weight-for-age.
	Health insurance	Households with at least one person age 6 or older who currently do not have health insurance.
<b>3. Education</b>	<b>Adult education level</b>	Household with at least one person between the ages of 16 and 30 who does not attend training courses or does not have a degree or certificate of education and training compared to the corresponding age [Person from 16 years old to under 18 years old age studying or graduating from lower secondary school; from 18 years old to 30 years old who are studying or have graduated from high school or elementary/intermediate/vocational college; or people from 16 to 30 years old who are recruited by the enterprise and certified for on-the-job training (the form of learning by working)]
	School attendance status of children	Households with at least 1 child from 3 years old to under 16 years old who are not enrolled in the correct grade or grade appropriate to their age (children from 3 years old to under 6 years old can access preschool education, children aged 6 children under 12 years old can access primary education and children from 12 years old to under 16 years old have access to lower secondary education).
<b>4. Housing</b>	<b>Housing quality</b>	Household living in an unstable house/apartment (of the three main structures, walls, columns, and roof, at least two are made of unstable materials)
	Housing area per capita	The average housing area per capita of the household is less than 8m <sup>2</sup> .
<b>5. Water and sanitation</b>	Water source	Households do not have access to clean water sources for daily life (including tap water, drilled wells, protected dug wells, protected crevices/holes and rainwater, and bottled water).
	Hygienic latrines	Households do not use hygienic latrines (including septic/semi-septic, absorbent (Suilabh), improved vented (VIP), dug latrine with seat, two compartments).

<b>6. Information</b>	<b>Use of telecommunications services</b>	No member of the household uses internet service.
	Means of access to information	Households do not have any of the following devices of accessing information: Shared devices: TV, radio, desktop computer, phone Personal devices: Laptop, tablet, smartphone

*Source: Decree 07/2021/ND-CP of the Government on the multidimensional poverty line for the period of 2021-2025*

Currently, Vietnam Government is using the approach for evaluating multidimensional poverty recommended by Akire and Foster. However, the set of component indicators used for analytic purposes is proposed by the Ministry of Labor – Invalids and Social Affairs instead of building the index based on the socio-economic status of provinces. Meanwhile, scientists and researchers agreed that the formation of indexes and indicators should be adjusted based on five circumstantial criteria, including (i) the consistency with the national poverty alleviation goal; (ii) the research purpose; (iii) the compatibility with socio-economic features of the localities; (iv) the availability of data; and (v) the feasibility of policy recommendations for the local authorities. Most of the current research merely indicates the poor performances in some poverty dimensions while lacks data to analyze the causes of the poorness to propose appropriate and practical measures for poor households.

#### 4. DISCUSSION AND CONCLUSION

With the above-mentioned contents about the current multidimensional poverty assessment method, the AF method of Alkire and Foster, especially the MPI, has the following advantages:

- Overall poverty was properly described and there is no separation of poverty dimensions for different population groups as well as geographical areas. At the same time, using the MPI, it is easy to compare different population groups, regions, and periods.

- It is able to analyze the correlation between two or three or more deprivations of the poverty dimensions, to help determine whether a deficiency in one indicator has an impact on other deficits, or to find the co-occurrence of several deficiencies in certain population groups or geographic regions. Understanding this correlation can help guide effective policy to ameliorate a gap in a particular dimension of poverty.

- The AF method assesses poverty across multiple dimensions and indexes, so it is able to assess the different needs of a household and help determine the urgency of some needs compared to others. This will help the implementation of poverty alleviation policies have a focus and focus; limit the average support being provided with the unidimensional poverty approach.

- The Multidimensional Poverty Index (MPI) not only reflects the multidimensional poverty rate but also the degree of deprivation of the poor. This is a fairly complete index in terms of content and calculation method, reflecting the combined deficiencies in three aspects of health, education, and quality of life; identifying deficiencies at a specific level for an individual, household, or population group; reflects the average amount of deprivation faced by the poor or the intensity of multidimensional poverty affecting the poor.

- If the size of the study could be broken down, the MPI would show how levels of multidimensional poverty change as the components of the multidimensional poverty scale change. In other words, with different analyzed target groups and different component indexes, the MPI will describe the different intensity of multi-dimensional poverty impacts across regions and population groups, thereby contributing to useful recommendations for more effective targeted and targeted poverty alleviation policymaking.

- The ability to integrate more components compared to previous multidimensional poverty measurement indicators such as housing, electricity, clean water, sanitation, cooking fuel, etc. which helps MPI to provide more detailed and insightful information about non-monetary deficits in people's lives.

- The information provided by the MPI helps researchers and policymakers better understand the challenges facing poor households. Examining the contribution of each dimension to multidimensional poverty in any region or population group will accurately and comprehensively represent the fundamental gaps faced by the poor. The measures to alleviate income poverty pursued by countries may not be able to fully address these shortcomings.

In summary, the multidimensional poverty measurement method according to AF can combine many different criteria to capture the diversity and complexity of poverty, thereby providing information to develop appropriate poverty alleviation policies and programs. The measurement criteria will be selected to suit the society and actual circumstances of each country, locality, or region.

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# POVERTY REDUCTION FOR SUSTAINABLE ECONOMIC DEVELOPMENT- A CASE STUDY OF ETHNIC MINORITIES IN LAO CAI PROVINCE

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**Abstract:** *The article focuses on analyzing multidimensional poverty reduction progress in Lao Cai province. Based on the analysis of secondary data on various aspects of poverty reduction in the province, the authors analyze the current situation and challenges to Lao Cai provincial authority during the implementation of poverty reduction. The research findings provide authentic information and propose solutions to overcome the challenges.*

**Keywords:** *poverty reduction, multidimensional poverty reduction, Lao Cai province, local authorities.*

## 1. INTRODUCTION

Lao Cai is a mountainous-border province in the Northwest sub-region. Lao Cai is a poor province with a developing yet unstable economy and its agricultural production is highly dependent on nature... In recent years, thanks to the Party's direction and state authorities' support, poverty reduction in Lao Cai province has gained remarkable results. Poverty reduction projects and policies are implemented synchronously to support poor households in production development; enable poor households to access basic social services and raise awareness and capacity for poverty reduction.

However, the province's multidimensional poverty reduction still poses certain limitations, including: (i) The communication on poverty reduction has not achieved the desired effect; has not changed awareness, aroused the sense of overcoming difficulties; (ii) The mobilization of resources among the people has not corresponded to the potentials; (iii) The implementation of key contents on sustainable poverty reduction in some communes has not achieved the desired effect; insufficient resources to achieve targets; (iv) Regular and periodical inspections instead of ad-hoc inspection; (v) The province has not yet conducted lessons learned after each inspection to improve the efficiency for future implementations.

The article focuses on the analysis of multidimensional poverty reduction in Lao Cai Province. Thus, based on an assessment of the implementation, the authors propose certain solutions to improve the implementation efficiency.

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## 2. LITERATURE REVIEW

### 2.1. Foreign Studies

Foreign studies on multidimensional poverty reduction can be divided into two main groups

Firstly, there are multi-dimensional poverty reduction studies in the direction of analysis and assessment of factors affecting poverty. On that basis, corresponding measures are proposed to adjust the impact of these factors on poverty. Some typical studies include “Individual and Institutional Determinants of Multidimensional Poverty: A European Comparison” by Caroline Dewilde (2008); “Multidimensional Poverty in Cameroon: Determinants and Spatial Distribution” by Ningaye, P., Ndjanyou, L. & Saakou, G. (2011); “Counting and Multidimensional Poverty Measurement” by Alkire S. and J Foster (2007) and “Panel regression models for measuring multidimensional poverty dynamics” by Betti, G., D’Agostino, A. & Neri, L. (2002).

Secondly, there are studies on poverty reduction focusing on different dimensions of poverty and thereby proposing corresponding policies. Some typical studies include “Multidimensional poverty analysis at the local level in northwest Yunnan Province, China” by Lu, Y., Routray, J. K., & Ahmad, M. M. (2019); “Measuring the condition of the world’s poor: The physical quality of life index” by Morris, C. T (1982); “Multidimensional poverty measurement and decomposition of farmers in poverty-stricken areas” by Yang, L., & Wang, S. (2015) and “Moving from the Household to the Individual: Multidimensional Poverty Analysis” by Vijaya, Lahoti, and Swaminathan (2014).

### 2.1. Vietnamese Studies

Studies on multidimensional poverty reduction in Vietnam are numerous with various approaches.

Firstly, a number of studies discuss the concept and measurement of multidimensional poverty, including “Determining multidimensional poverty measurement indicators for rural households in Vietnam” by Tran Tien Khai and Nguyen Ngoc Doanh (2014) and “Multidimensional Poverty and Multiple Correspondence Analysis” by Asselin and Vu Tuan Anh (2005).

Secondly, many studies focus on factors affecting multi-dimensional poverty reduction at the national and local levels, using a variety of quantitative models such as separate regression models, linear regression models, etc. Some typical studies include “Macro-economic factors affecting poverty reduction in Lam Dong” by Ho Quang Thanh, Hoang Trong Vinh, and Tran Tuan (2017); “Research on the relationship between loans from social policy banks and poor households’ living standards in Quang Ngai province” by Huynh Dinh Phat (2018); “Study on factors affecting multidimensional poverty of households in Tan Hiep district, Kien Giang province” by Ngo Van Cay (2017) and “Multidimensional poverty assessment according to sustainable livelihoods approach: case in two communes Hang Kia and Pa Co, Mai Chau district, Hoa Binh province” by Dang Huu Lieu and Nguyen Thi Ha Thanh (2017). Besides, some other studies use qualitative methods such as “Solutions to raise income for poor households in Tra Vinh province” by Nguyen Hong Ha and Kien Thi Minh Nguyet (2022); “Poverty alleviation in Van Yen district, Yen Bai province” by Nguyen Van Dung (2021), and “Poverty analysis by multidimensional approach in Cau Ngang district, Tra Vinh province” by Lam Thi My Le (2018).

### 3. METHODOLOGY

There are many studies on multidimensional poverty reduction using case study analysis as the main research method. In this article, the authors also adopt this approach, specifically studying poverty reduction for sustainable economic development through the case of ethnic minorities in Lao Cai province.

Also, the authors use desk research methods and utilise secondary data to (i) analyze the situation of multidimensional poverty in Lao Cai province; (ii) Indicate the causes of poverty; (iii) Assess the situation of multidimensional poverty reduction in Lao Cai province and (iv) propose some solutions to improve the effectiveness of multidimensional poverty reduction in Lao Cai province.

The professional solution is also used by the authors to consult the views and opinions of some local officials and people.

### 4. CURRENT SITUATION AND CAUSES OF MULTIDIMENSIONAL POVERTY IN LAO CAI PROVINCE

#### 4.1. Current situation

In recent years, one of Lao Cai province's achievements is the single-digit poverty rate thanks to timely and sustainable poverty reduction activities. In 2019, the ranking levelled by five compared to other provinces and secured the 11<sup>th</sup> position among sixty-three provinces.

**Table 1: Poverty rate across Lao Cai province in the 2016-2021 period**

*Unit: %*

Districts	2016	2017	2018	2019	2020	2021
Total	27.41	21.81	16.25	11.46	8.2	5.31
Lao Cai city	2.08	1.38	0.75	0.46	0.58	0.33
Bao Thang district	20.49	14.40	9.98	6.91	4.97	2.99
Bao Yen district	26.40	21.27	17.16	13.64	9.83	6.75
Bac Ha district	47.21	38.92	28.25	18.82	13.08	7.86
Si Ma Cai district	42.46	32.86	22.96	16.35	13.09	10.52
Muong Khuong district	44.44	37.36	27.73	19.84	13.99	8.84
Bat Xat district	35.48	28.33	22.04	15.09	11.71	7.77
Van Ban district	28.25	22.28	17.64	13.09	9.30	5.79
Sa Pa town	44.90	37.40	28.38	18.82	13.64	8.66

*Source: Lao Cai People's Committee*

Overall, the poverty rate in Lao Cai has significantly decreased. In 2017, the province had 27.41% of its population living under poverty; however, in 2021, this rate decreased by 22.1%, to 5.31%. Among the nine districts and cities of the province, Si Ma Cai district, Muong Khuong district, Sa Pa town, Bac Ha district, Bat Xat district had the highest poverty rate. The figure of Lao Cai city in 2021 was only 0.33%.

**Table 2: The distribution of poor households across Lao Cai province in the 2016 – 2021 period***Unit: people*

Districts in Lao Cai	2016	2017	2018	2019	2020	2021
Total	43,835	35,746	27,364	19,708	14,322	9,345
Lao Cai city	601	407	235	149	215	123
Bao Thang district	6,002	4,348	3087	2,165	1,488	888
Bao Yen district	5,319	4,351	3551	2,860	2,076	1,428
Bac Ha district	6,131	5,169	3,834	2,607	1,850	1,126
Si Ma Cai district	2,953	2,336	1,661	1,221	1,000	822
Muong Khuong district	5,765	4,937	3,714	2,704	1,943	1,240
Bat Xat district	6,110	5,003	3,960	2,774	2,042	1,361
Van Ban district	5,425	4,372	3507	2,627	1,890	1,181
Sa Pa town	5,529	4,823	3815	2,601	1,818	1,176

*Source: Lao Cai People's Committee*

Bat Xat and Muong Khuong districts had the highest number of poor households. In 2021, each district still had more than 1,200 poor households. Although the number of poor households has shown sharp decline over the years; in 2021, Lao Cai province still recorded a high figure, up to 9,345 poor households.

#### **4.2. Causes of poverty in Lao Cai**

There are many reasons leading to the poverty rate of Lao Cai remaining high. Underdeveloped socio-economic condition in some communes, complex terrain, scattered population and unfavourable weather - climate, and high frequency of natural disasters and epidemics causes severe damage to people's lives and properties. The ethnic minorities account for over 70% of the province's population, together with characteristics of and shifting cultivation and nomadism, agricultural-based and self-supporting and monocultural economies are quite common in the highland districts.

Statistics show that, on average, lowland and highland fields only produce one main crop, the rural employment rate is low and the working day is short. People's intellectual level has not significantly progressed and many outdated customs still exist. The province's natural population growth rate is extremely high, at the level of 1.75% while the average food consumption per capita is only 287 kg/person/year.

Difficulties in economic development, infrastructure, education level and outdated production practices, along with challenges associated with the transformation of the management mechanism to a multi-component commodity economy, operating under the socialist-oriented market mechanism make the poverty rate remain at a prominent level.

## **5. CURRENT SITUATION OF MULTIDIMENSIONAL POVERTY REDUCTION IN LAO CAI PROVINCE**

### **5.1. Current management of multidimensional poverty reduction in Lao Cai province**

#### ***5.1.1. Planning of multidimensional poverty reduction***

Annually, Lao Cai Province's Steering Committee on Poverty Reduction advises the Lao Cai People's Committee to develop a multidimensional poverty reduction action plan. The multidimensional poverty reduction action plan is executed based on the assessment and research of (i) socio-economic situation; (ii) human, and financial resources, (iii) current infrastructure, and future infrastructure planning; and (iv) the number of poor households, near-poor households, backgrounds, and poverty eradication plan of each household and of the local area (commune, ward, town, district, cities). Based on such findings, the Lao Cai People's Committee develop a specific action plan, including providing direct support to multidimensional poor households according to the submitted poverty eradication plan approved by the Lao Cai People's Committee.

Annually, Lao Cai's provincial authority develops 3 to 5 multidimensional poverty reduction action plans, including both annual and long-term plans (5 years). The establishment of several multidimensional poverty reduction plans enables the local authorities to have a better direction of multidimensional poverty reduction plan and translate the Government's multidimensional poverty reduction programs, orientation, and directions into actions.

#### ***5.1.2. Implementation of multidimensional poverty reduction***

- ***Review and classification of poor households***

Based on the list of poor and near-poor households, the Lao Cai People's Committee directs local authorities to classify and compile lists of poor households and near-poor households that can or cannot get out of poverty in the following year in each commune and town in order to develop suitable assistance plans given backgrounds, conditions and capacities of each household; review and understand specific features, conditions and backgrounds of households with member(s) receiving an allowance for meritorious people; documenting, keep track, manage and issue specific poverty eradication plans.

The list must clearly include features, backgrounds and living conditions (land, labor, employment, housing condition, water, and sanitation facilities, ...) of poor households and the support needed to eradicate multidimensional poverty. Based on conditions and the number of poor, near-poor households, the Lao Cai People's Committee assigns officers, Party officers, and members of the Steering committee/ supervision team of the National Target Program or requests provincial offices and units to support poor households to conduct sustainable poverty eradication as registered with Lao Cai People's Committee; gives priorities to poor households receiving an allowance for people with revolutionary achievements.

- ***Communication programs***

In the 2016-2021 period, Lao Cai province has synchronously implemented many communication measures to promote economic development and sustainable poverty reduction. Vietnamese Fatherland Front's Program on sustainable poverty reduction has been regularly and

continuously conducted by all levels, sectors, and mass media agencies to help officials and people fully understand the Program, reduce the dependency on the State's support and embrace positivity, innovation and creativity, turning the Program into a strong movement.

**Table 3: The number of campaigns, communication programs and dissemination of policies and laws on multidimensional poverty reduction in Lao Cai province in the 2016-2021 period**

Methods	2016	2017	2018	2019	2020	2021
Television radio	176	190	217	247	267	304
Provincial Military Command	67	87	93	104	120	167
Vietnam Fatherland Front Committee and other socio-political organizations	11,387	12,983	14,021	15,384	18,387	20,042
Poverty reduction articles and bulletins	2	4	5	6	6	5
Poverty reduction contest	1	1	2	1	1	1
News, articles on poverty reduction on the website	274	302	364	421	450	470
Billboards	23	28	34	39	45	50

*Source: Lao Cai People's Committee*

Communication methods for poverty reduction in Lao Cai province are quite diverse. However, the communication mainly comes from news articles, radio and television stations, Vietnam Fatherland Front Committee and news and articles on poverty reduction on the website. New and captivating communication mediums such as poverty reduction columns, thematic articles; contests on poverty reduction or billboards are still limited.

Among the communication methods, the province has deployed communication programs through the Vietnam Fatherland Front Committee strongly and effectively.

- ***Implementation of multidimensional poverty reduction policies***

Lao Cai Province has adopted several policies to reduce multidimensional poverty in all aspects of life, specifically:

- Policies to support poor households to access input resources to develop production and business for higher income compared to poverty line.
- Policies to support access to land, credits, technology, seeds, materials, etc...
- Policies to support poor households to organize production effectively
- Policies to support poor households to sell products
- Policies to provide skill training programs for the poor
- Policies to build a social safety network to support poor households against risks
- Policies to provide legal support to the poor so that they can participate equally in the market.

- ***Encouragement of organizations and collectives to support poor households***

In the past, Lao Cai province has mobilized many investment resources from organizations and collectives to support and help poor households in the area. The province implements the Solidarity Movement for economic development, sustainable poverty reduction, improvement of living standards, and promotion of legitimate enrichment. Lao Cai Provincial People's Committee directs the Provincial Fatherland Front Committees and localities to regularly coordinate with media agencies and member organizations to promote extensive communication and mobilization to all people, especially the guidelines and policies of the Party and State on sustainable poverty reduction.

In the 2016-2021 period, the Fatherland Front and socio-political organizations of Lao Cai province have organized many activities to visit, encourage and help poor and near-poor households by organizing scientific and technological knowledge exchange programs; supporting poor households to access loans for production development through trust funds of organizations cooperate with the provincial social policy bank, guiding poor households to participate in economic and social development programs and projects, developing models to collectively and sustainably reduce poverty, supporting poor households and near-poor households to improve their financial conditions.

### ***5.1.3. Inspection and assessment of multidimensional poverty reduction***

The inspection and evaluation of the implementation of the multidimensional poverty reduction policy have been paid special attention to and regularly implemented by the People's Committee of Lao Cai province. The inspection and evaluation of the implementation of the multidimensional poverty reduction policy of Lao Cai province are conducted as follows:

The Provincial People's Council and the Provincial Fatherland Front Committee regularly monitor, inspect, urge, and supervise the implementation of the Scheme. Every year, the Provincial People's Committee has directed, assigned members of the Steering Committee to develop thematic inspection programs and plans according to their assigned fields of responsibility. In the 2016-2021 period, the provincial cross-sectoral inspection team conducted twelve inspections of the National Target Program on Poverty Reduction in districts and towns.

Departments and offices in their respective fields have actively developed plans and established teams to inspect and supervise the poverty reduction program at all levels (from households to villages and communes, wards, and towns).

## **5.2. Limitations**

The communication on poverty reduction has not achieved the desired effect; has not changed awareness, and embraced the sense of overcoming difficulties. The content and methods of communication on poverty reduction are not new and diverse. Some committees and commune authorities have not been proactive in directing and implementing poverty reduction.

The mobilization of resources among the people is not commensurate with the potential.

The implementation of key content on sustainable poverty reduction in some communes has not achieved the desired effect. Some goals have been set, but resources limited

The inspection is periodical and regular; an Ad-hoc inspection has not been performed. The province has not yet conducted lessons learned after each inspection to improve implementation efficiency in the future.

## **6. SOLUTIONS TO REDUCE MULTIDIMENSIONAL POVERTY IN LAO CAI PROVINCE**

### **6.1. Strengthening propaganda and communication to raise awareness for the poor**

The local authorities of Lao Cai should construct and organize programs, events, columns, reportages, and media publications on sustainable poverty reduction; propagating, educating, and raising awareness and responsibility at all levels, sectors and society about poverty reduction. Another solution is operating digital information platforms about poverty reduction. Encouraging conversation on poverty reduction in local communities, actively acknowledging ideologies and public opinions, and internalizing feedback on difficulties from the press in the process of implementing effective and sustainable poverty reduction schemes in local communities. Besides, it is advisable that they construct a self-management group for the poverty reduction model to connect wealthy households or those that have gotten out of poverty with the poor and near-poor to reduce poverty sustainably.

### **6.2. Increasing mobilisation of financial resources for the reduction of multidimensional poverty**

The local authorities of Lao Cai should utilise investments from the National target program on Sustainable poverty reduction during 2021-2025, the National target program on New rural development during 2021-2025, and the Socio-economic development program for ethnic minorities and mountainous areas during 2021-2030; prioritize the allocation of funds according to mid-term and annual plans for poor communities, and ethnic minorities to ensure sufficient resources in implementing policies and poverty reduction mechanisms; allocating additional local budget to achieve poverty reduction targets. In particular, funds for poverty reduction programs should account for 5-6% of the Total Social Investment

### **6.3. Improve the effectiveness of the implementation of poverty reduction policies**

Lao Cai province needs to change the method of supporting the poor, moving from individual support by households to focusing on supporting production organization models that suit the characteristics of the local community and the needs of the people through the construction, development, and replication of poverty reduction models and projects to support the development of production, business, services, tourism and start-ups to create jobs, stable income, hence improving the quality of life and adaptation to climate change and diseases for the poor, contributing to achieving the goal of economic and labor restructuring, promoting the cultural values of the nation, environmental protection, economic growth, and sustainable poverty reduction goals. Contents of support include: supporting the development of essential infrastructure, serving people's daily life, producing and circulating goods such as transport infrastructure, electricity, and telecommunications services, developing vocational education, and providing housing for poor and near-poor households. The remaining projects are implemented nationwide, with priority given to supporting poor districts, and extremely difficult communes in lowland areas, coastal areas, and islands.



#### 6.4. Strengthening inspection and assessment of the implementation of poverty reduction policies

Lao Cai Province's Steering Committee on Poverty Reduction needs to hold a direct dialogue with poor households at least once a year to understand the thoughts and aspirations of the poor, reviews the policies issued by the province and districts, and at the same time considers whether the grassroots level has implemented correctly, promptly adjusting the limitations and hence proposing solutions to organize the effective implementation of multidimensional poverty reduction scheme in the region. The Provincial People's Committee needs to strengthen the inspection, supervision, and evaluation of the results of the implementation of the multidimensional poverty reduction program in the area every 6 months. Monthly, the lower level of the Committee must report to the higher-level one on implementation results. Every quarter, the Committee at all levels hold a brief to review and evaluate the activities and work done in the quarter and the implementation plan for the next quarter.

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# STATE MANAGEMENT FOR ATTRACTING FOREIGN DIRECT INVESTMENT IN NINH BINH PROVINCE

Dinh Vu Minh<sup>1</sup>

**Abstract:** *This paper aims to examine the status of state management for attracting foreign direct investment (FDI) in Ninh Binh province to propose directions and solutions. We start by describing the results of attracting FDI to Ninh Binh province to date. We then analyze what Ninh Binh local government has conducted to attract FDI and identify drawbacks in state management and barriers that harm the province's attractiveness to foreign investors. Based on the findings, we give some suggestions on the directions and solutions for improving state management.*

**Keywords:** *Foreign direct investment, State management, Ninh Binh province.*

Foreign direct investment (FDI) plays an important role in the socio-economic development of a country. Ninh Binh is a southernmost coastal province of the Red River Delta, the southernmost gateway of the Northern Delta region, located at the boundary of three geographical regions: the Northwest, the Red River Delta, and the North Central Coast; lies in between three economic regions: the Hanoi region, the northern coastal region, and the central coastal region.

With regards to attracting investment projects, priority orientation focuses on the field of infrastructure, high technology, clean and environmentally friendly technology; projects with high added value, promoting potential strengths; setting foundation and motivation for development; Ninh Binh has had initial successes in attracting foreign direct investment projects. By the end of 2021, there have been 87 FDI projects with a total registered investment capital of over 1.5 billion USD; these projects have contributed to creating jobs for local workers, increasing import and export value, contributing to the province's budget, and played a role in improving the general socio-economic development of the whole province.

Given the new context, FDI also needs to be placed in the overall context of Ninh Binh, which has to take into account five factors: (1) Where Ninh Binh is in the attracting foreign direct investment picture; (2) What industries and fields are Ninh Binh in need and prioritizing?; (3) What is Ninh Binh's capacity, potential and ability to respond to foreign direct investment enterprises? (4) What are Ninh Binh's goals up to 2025, 2030, and vision for 2045? (5) How will the economic structure of Ninh Binh from the economic sectors (state capital sector, private sector, and foreign investment sector) be determined in the future? And what is the most suitable structure, utilizing the best local

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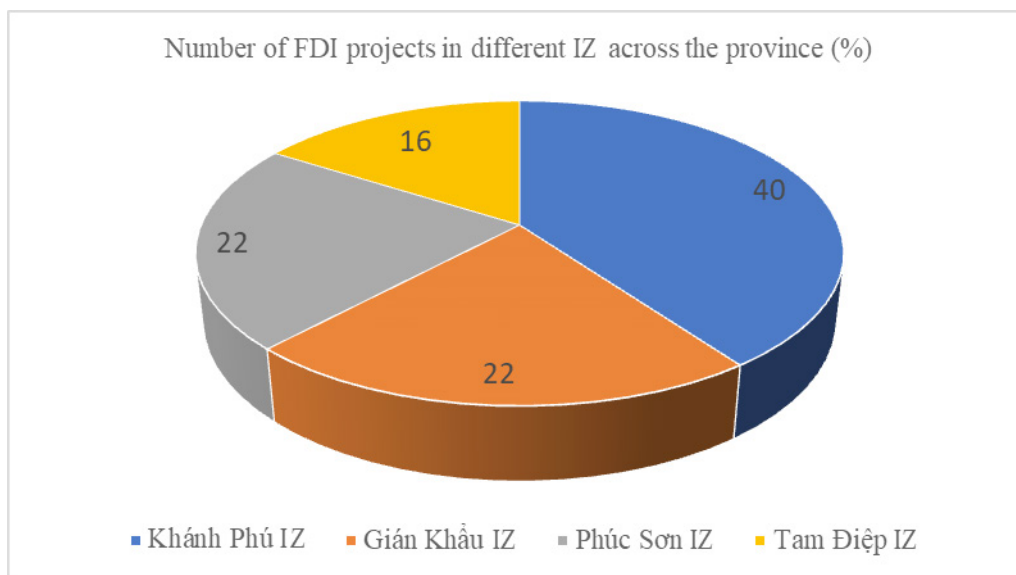
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Office of Ninh Binh Provincial People's Committee

internal resources? These factors require research on FDI attraction and state management of Ninh Binh province's FDI attraction to be given a new context, conditions, and requirements.

## 1. RESULTS OF ATTRACTING FDI INTO NINH BINH

Up to now, in Ninh Binh province, there are 87 FDI projects in operation with a total registered investment of 1,561.2 million USD, including 57 projects outside industrial zones (IZ) with total investment capital of 959 million USD; 30 projects in industrial clusters (IC) with total investment capital of 602.2 million USD. The area of land use of these FDI projects accounts for 607.52 ha; with an average of 6.98 ha/project. Jobs have been created for more than 52,000 employees with an average salary of 7 million Vietnam Dong (VND)/person/month. 369.3 billion VND was contributed to the province's budget in 2021.



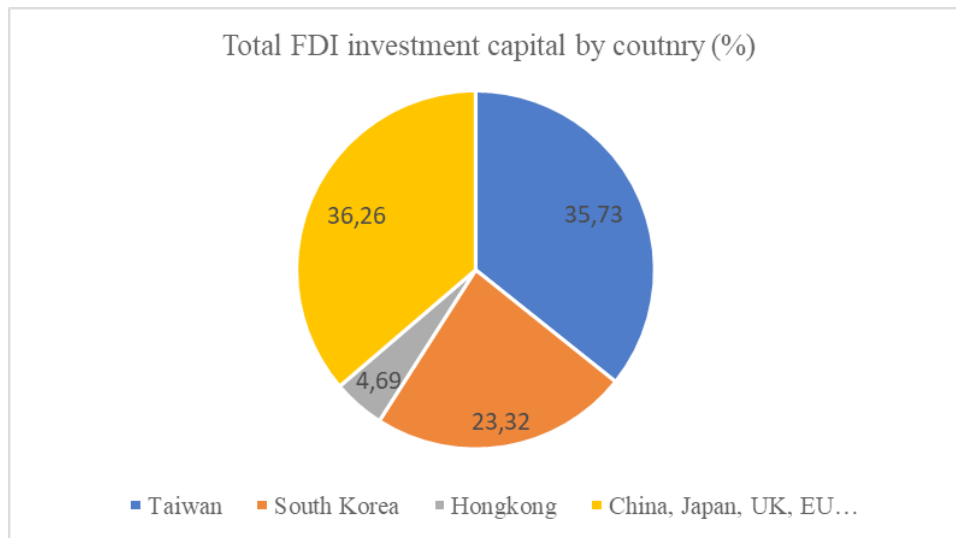
**Figure 1: Number of FDI projects in different IZ across the province (%)**

*Source: Report on the state of foreign investment in preparation for meeting with FDI enterprises 2022*

At the moment, in the province, 65/87 projects are currently in operation, 19 projects are in the construction phase and 03 projects are behind schedule; all projects comply with regulations on the basic level with regards to environmental protection, security and order, labor safety and contribute to the socio-economic promotion of the province.

### *FDI structure by investor's country*

As of 31st of May, 2022, there are 12 countries and territories investing FDI in Ninh Binh province. Which, Taiwan is the leading country with total investment capital of over 557.89 million USD, accounting for 35.73% of total investment capital; South Korea ranked second with 364.2 million USD, accounting for 23.32%. Hong Kong is third with nearly 73.33 million USD, accounting for 4.69% of total investment capital.



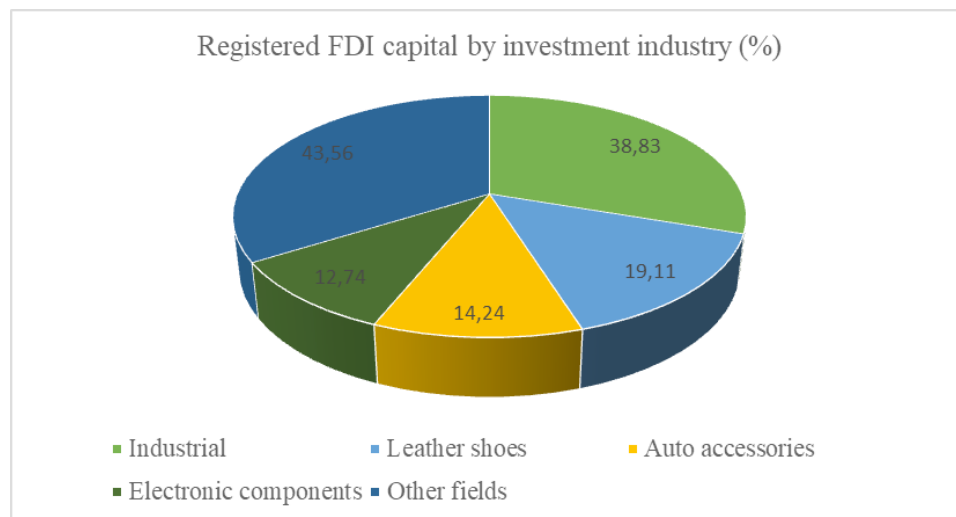
**Figure 2: Total FDI investment capital by country (%)**

Source: Report on the state of foreign investment in preparation for meeting with FDI enterprises 2022

Followed by China, Japan, the UK, etc... South Korea, although only ranked second in terms of investment capital, is the leading partner in the number of new investment projects (42 projects), number of projects with adjustment to capital invested as well as the number of capital contributions to buy shares. Thus, in terms of a pure number of projects, Korea is the partner with the most number of investors interested, making the newest investment decisions as well as expanding investment projects in the province.

*FDI structure by industry, field, and location*

FDI projects in the province focus on the following industries and fields: Industrial building materials, garments, leather footwear, electronic components, and auto accessories. In addition, several small projects invest in trade in services and agriculture.



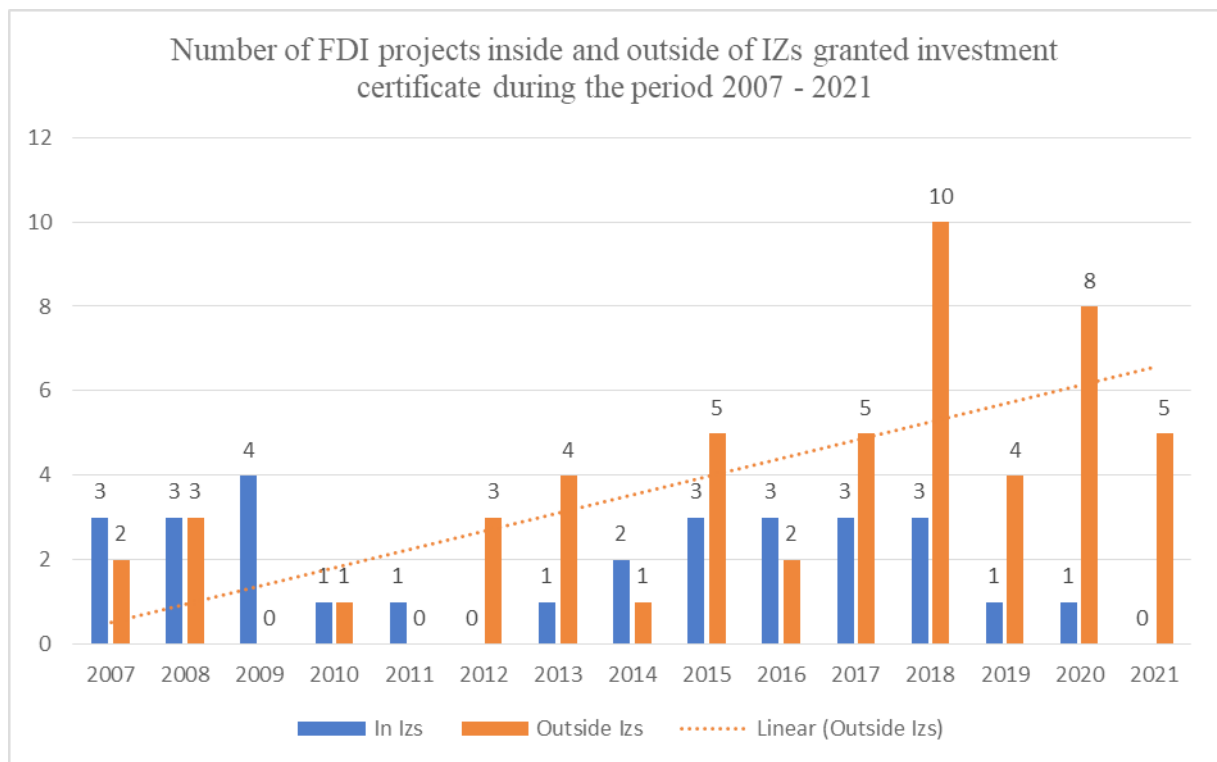
**Figure 3: Registered FDI capital by investment industry (%)**

Source: Report on the state of foreign investment in preparation for meeting with FDI enterprises 2022

- In terms of the registered capital: The has a total registered investment capital of 606.31 million USD (accounting for 38.83%); the leather footwear industry is 298.38 million USD (accounting for 19.11%); the auto accessories industry is 222.32 million USD, electronic components is 198.97 million USD; garment industry is 153.98 million USD.

- In terms of the number of projects: industrial building materials, auto accessories, and the garment industry attract the most projects, with 21, 20, and 16 projects respectively.

During the 2007 - 2021 period, the number of FDI projects in industrial zones granted investment certificates maintained at an average level of 3 projects per year, of which from 2010 to 2013 there was only 1 or no project at all granted investment certificates. Meanwhile, in the same period, the number of FDI projects outside the IZs increased from 2012 with an average of 4.7 projects granted per year, peaking in 2018 with 10 FDI projects granted certificates outside the IZs. In 2020, with the impact of the COVID-19 epidemic heavily affecting the socio-economic situation of the whole country in general and Ninh Binh in particular, there were still 08 FDI projects outside the IZs that have been granted investment certificates even in those difficult times.



**Figure 4: Number of FDI projects inside and outside the IZs granted investment certificate during the period 2007 - 2021**

*Source: Report on the state of foreign investment in preparation for meeting with FDI enterprises 2022*

- In terms of location, FDI projects are concentrated mainly in Ninh Binh city and Gia Vien district with total registered investment capital of 625.49 million USD, accounting for 40.06% of total registered investment capital. Foreign investors invested in Gian Khau, Phuc Son Izs and Gia Van, Gia Phu, Gia Lap, and Cau Yen ICs,... with 51 projects, accounting for 58.62% of the total project province-wide.

## **2. STATUS OF STATE MANAGEMENT TO ATTRACT FDI IN NINH BINH**

### **2.1. How the province is developing plans to attract foreign direct investment**

#### ***2.1.1. Building, promulgating, and disseminating the list of potential investment projects for attraction***

To effectively implement solutions to increase investment attraction, the Provincial People's Committee (PPC) has directed departments, agencies, and localities to review, build and propose a list of 40 potential investment projects for attraction in Decision No. 1355/QD-UBND dated December 10, 2015, and Decision No. 590/QD-UBND dated May 22, 2019. As a result, 13 potential projects in the investment attraction list with registered capital totaling 2,573 billion VND were attracted during the 2016 - 2020 period.

#### ***2.1.2. Building, promulgating, and disseminating the investment promotion programs***

Each year, the PPC has issued an investment promotion program to improve the quality and efficiency of investment promotion and attraction activities. During the 2016-2021 period, activities in the annual investment promotion program include: (1) Researching markets, trends, and potential investment partners; (2) Building images, propagating, promoting, and introducing the province's economic environment, policies, and opportunities; (3) Support, guide and facilitate investment activities; (4) Building an information database for investment promotion activities; (5) Building a list of potential projects for attraction and (6) Domestic and international cooperation on investment promotion.

#### ***2.1.3. Building, promulgating and disseminating investment incentives and support policies***

##### *\* Investment support and incentives policies of the Central Government*

In recent times, based on implementing the central regulations on investment support and incentives, Ninh Binh province has organized the implementation to ensure compliance with the provisions of law; with the focus on Incentives on land rent and water surface rent (according to Decree No. 46/2014/ND-CP dated May 15, 2015, and Decree No. 135/2016/ND-CP of the Government); corporate income tax (according to Decree No. 218/2013/ND-CP dated December 26, 2013, and Decree No. 12/2015/ND-CP of the Government); export tax, import tax (according to Decree No. 134/2016/ND-CP dated September 1, 2016, and Decree No. 18/2021/ND-CP dated March 11, 2021);...

##### *\* Investment support and incentives policies of Ninh Binh province*

Ninh Binh province has also issued some investment support and incentive policies in recent years such as Decision No. 28/2012/QD-UBND dated November 23, 2012, Decision No. 35/2014/QD- People's Committee dated December 9, 2014, Decision No. 1751/QD-UBND dated December 15, 2017, of the Provincial People's Committee on investment incentives for industrial development and Resolution No. 05-NQ/TU dated October 24, 2016, of the Party Committee of Ninh Binh province on agricultural economic development with high technology application.

### **2.2. The state of organizing the implementation of the plan to attract foreign direct investment in the province**

#### ***2.2.1. Results of investment promotion activities***

In recent years, investment promotion activities have been implemented synchronously as follows: (1) Building a database to serve the province's investment promotion; (2) Participate in welcoming and working with domestic and foreign organizations to learn about the province's laws, policies, investment procedures, potentials, markets, partners and investment opportunities;

(3) Organizing activities to introduce and promote the image and potential strengths of Ninh Binh in the forms of newspapers, local and central television stations; on social media, website of the province; (4) Annually organize business dialogue conferences to enhance exchange, understanding the difficulties in the process of operation and production of business to promptly solve.

### **2.2.2. Results of implementation of investment support and incentive policies**

#### *Results from implementing investment support and incentive policies of the Central Government*

- During the 2016-2020 period, the PPC has decided on investment policies and granted investment registration certificates for 275 projects; of which 67 projects enjoyed incentives on land rent exemption and reduction according to regulations with a total amount of 170.73 billion VND and 11 projects enjoyed tax incentives, with a total benefit of 121,453 billion dong.

- Implementing support and investment incentives according to Decree No. 210/2013/ND-CP 19/12/2013 of the Government, the Provincial People's Committee has supported 06 projects, with a total capital amount of 33,232 million VND.

- Implementing support and incentives according to the Government's Decree No. 45/2012/ND-CP dated May 21, 2012, on industrial promotion, so far the province has 03 ICs supported for detailed planning and infrastructure construction with the amount support of 5,870 million VND.

#### *Results from implementing investment support and incentive policies of the province*

- The policy to support agricultural development in the direction of high technology application according to Resolution No. 05-NQ/TU dated October 24, 2016, of the Party Committee of Ninh Binh province, is revised and replaced with Resolution No. 113/2020/NQ-HDND dated December 9, 2020, of the Provincial People's Council on agricultural economic development. After 4 years of implementation, the total provincial budget support in the annual estimate for the implementation of the Resolution is 196,854 billion VND, the implemented and disbursed funds amount to 184,509 billion VND.

- Supporting the implementation of the Industrial Promotion Program according to Decision No. 499/QD-UBND dated May 26, 2015, of the PPC: Up to now, the local industrial promotion has supported 277 projects with a total amount of 26, 56 billion VND.

### **2.2.3. The results of the implementation for creating an institutional environment**

#### *On promoting administrative reform*

- Promoting the advantages of the one-stop administrative model, to further improve operational efficiency, on January 5th, 2019, the PPC issued Decision No. 23/QD-UBND on the establishment of a Provincial public administration Service Center, in addition to several procedures related to the field of police, insurance, etc..., procedures related to investment, construction, and land will all be carried out at the Center.

- In 2021, 100% of administrative procedures' internal process approved by the Provincial People's Committee, have developed an electronic process to be applied on the Provincial Public Service Portal and with 02 steps cut shorter. Overall shortening the internal process of handling administrative procedures by 2,945 hours compared with standard regulations.

#### *On speeding up the province's planning procedure*

- In addition to specialized plans such as land use planning, urban system development planning, and industrial development planning of the province, in the past period, detailed planning



approval has been carried out for the adjustment and expansion of 3 IZs and 14 ICs in a quick and timely manner, meeting the progress and requirements of attracting investment.

- Implementing the Planning Law, the province is currently focusing on developing the Ninh Binh Provincial Plan for the period of 2021-2030, with a vision for 2050, which integrates many specialized plans to ensure uniformity and consistency.

#### ***2.2.4. The state of inspection, examination, and handling of violations on state management of foreign direct investment attraction***

In the period 2011-2020, the province established 04 interdisciplinary inspection teams in 2013, 2014, 2018, and 2019 with a total number of inspected projects equaling 291 results: 125 projects were on schedule ( accounting for 43%); 166 projects were behind schedule (accounting for 57%), of which 92 projects were delayed due to subjective reasons from investors, have been allocated land but did not implement further (accounting for 55.4%). In addition to organizing interdisciplinary inspections established by the PPC, the specialized agencies of the province have also conducted individual inspections and supervision of projects in each specialized field including investment, construction, land, environment...

Through inspections, many weaknesses and drawbacks have been identified in the management of land, environment, and construction order. Based on assessing the implementation status of each project, the PPC promptly directed agencies to guide, work with investors to remove these difficulties, urge the project owners to speed up the implementation of these projects, sanction violations, and withdraw projects that are delayed in progress and have been slow to put land into good use.

### **3. POSITIVE RESULTS**

#### *\* Regarding establishing an investment environment*

- There was a strong transition from a “multi-door” to a “one-stop” administrative mechanism and “connected” many administrative procedures across several agencies. With high political determination, in particular, the province has established the Provincial Public Administration Service Center. Thanks to drastic solutions and directions, Ninh Binh has become one of the leading provinces of the country proving an initial success in implementing the Government’s administrative reform project.

- Implementing the central policy of shifting from management government to serving government, the province has focused on building, supplementing, and perfecting mechanisms, promulgating policies, incentives, and investment support, especially in several key areas focused on the attraction of the province.

#### *\* Regarding investment promotion activities*

The change of mindset from the state investing in the infrastructure of IZs and ICs to attracting enterprises to invest in those infrastructure has contributed to crucial development steps of the province in recent times, as well as reducing the burden on the province’s budget. Infrastructure implemented by enterprises can be invested quickly and synchronously, meeting the needs of production and business premises promptly; together with the state, infrastructure investors are also an important factor in attracting investment, contributing to the overall development of the province, enabling Ninh Binh to develop into a province able to pay more into the state budget they receive from the Central Government.

### **4. SOME UNDERLYING ISSUES**

*Regarding FDI attraction results*

- The scale and number of FDI enterprises in Ninh Binh province are still small compared to other provinces in the Red River Delta region. The structure of FDI projects by industry, field as well as a geographical area is not entirely reasonable: The number of FDI enterprises operating in the field of machining, labor-intensive, and low-technology accounts for a large proportion; the majority of projects focus on the industrial sector, the commercial and service sectors are still very limited.

- The quality of FDI projects is not very high, as evident on the small scale, not many high-tech and manufacturing projects can contribute greatly to the province's budget revenue; the target of attracting projects with high-tech, source technology has not met expectations, and no FDI enterprises have established research and development centers in the province. The linkage between FDI enterprises and domestic enterprises is still very limited, especially the supply of input materials for production, import, and export.

*Regarding improving the business investment environment*

- Policies to encourage and give incentives to attract investment in the province have been issued in the previous period, but over several years the implementation has not been effective. The number of projects able to enjoy incentives and support according to the province's regulations is still small, the projects that have mainly received incentives in terms of tax, land rent, and advertising costs.

- Planning has been given great attention during implementation, but there is still a lack of synchronization, especially between construction planning and land use planning, so the process of appraising, deciding on investment policy, and issuing the Investment Registration Certificate has encountered many difficulties. The publicity and transparency of information such as planning, mechanisms, policies... have not been done well, many organizations and citizens have not grasped investment opportunities; land procedures still have many long-standing drawbacks...

*Regarding promotion and investment attraction*

- Investment promotion of the province has been steadily improved, but the efficiency is still not as high as expected. Activities of investment promotion have not been diversified, and there have not been many changes to adapt to new conditions, especially in the context of the Covid-19 pandemic affecting traditional forms of promotion.

- Promotion and attraction of investment on the spot have been rather ineffective; investment promotion documents lack in-depth information that investors are interested in such as Location of the introduced land, site clearance costs, land rental prices, leveling, and construction costs, which negatively influence the decision of investors, especially foreign investors.

**5. ORIENTATIONS AND SOLUTIONS TO IMPROVE STATE MANAGEMENT ON ATTRACTING FDI INTO NINH BINH IN THE COMING TIME****Firstly, complete the Plan to attract foreign direct investment in Ninh Binh province**

- Review, amend and supplement the list of prioritized projects for investment attraction to ensure that it is consistent with the socio-economic development orientations for each year and each period; which need to clearly define investment objectives, land size, ground status, expected land rent, construction density, connection infrastructure, and other criteria to call for investment.

- Review investment incentive and support mechanisms and policies in the province, promptly

adjust and supplement under the actual situation, ensuring compliance with the provisions of law.

### **Second, improve the organization and implementation of the plan to attract foreign direct investment in the province**

- Renovate the way of operating investment promotion agencies in a professional direction, moving from passive to active attraction; focus on promoting investment on the spot, building a list of strategic investors (domestic and foreign) with financial potential and experience to actively engage in advocacy. Prepare necessary conditions, especially in terms of infrastructure, land, and human resources, seize the opportunity to attract external resources, welcome the wave of FDI transformation; actively contact, mobilize and advise provincial leaders to arrange working schedules to call for investment.

- Diversify and multilateralism investment attraction partners; focus on traditional markets such as Japan, Korea, and Taiwan while the shift to other potential markets where appropriate such as Europe, US, and Australia. Strengthen links with ministries, embassies, counselors, organizations, and business associations such as VCCI, Jica, Jetro, KCCI, and Kotra ... to promote investment attraction.

- Focus on promoting investment on the spot, and pay adequate attention to investors who are already doing business in the province so that the success of these businesses gives proof and promotes a positive investment environment of the province in an effective way to other businesses.

- Allocate resources and spending for training workshops to the province's investment, trade, and tourism promotion team. In particular, focus on fostering professional knowledge and soft skills in investment promotion for officials directly working or closely related to investment promotion activities.

### **Third, improve the process of inspection, examination, and handling of violations on state management of foreign direct investment attraction**

Strengthen inter-sectoral inspection and examination to promptly detect, prevent and strictly handle investors and enterprises that violate the provisions of the law on investment, construction, land, and environmental protection. For investment projects that are slow to be implemented according to schedule, it is necessary to urge and supervise regularly; to solve problems and difficulties that cause delays in project implementation of the investors. Resolutely terminate project operations and revoke investment policy decisions, investment registration certificates for projects that fail to deploy or violate the provisions of law, fail to comply with investment commitments, and other related fields. Put into effect an adequate mechanism to strictly control the activities of project transfer, capital contribution, share purchase and contributed capital, to prevent the situation of "underground investment" and "hidden investment" that negatively affect security - social order, and investment environment of the province.

### **Fourth, other groups of solution**

#### **5.1. Accelerating administrative procedure reform, improving the provincial competitiveness index (PCI)**

- Continue to review, research and amend in the direction of simplifying administrative procedures, shortening the time it takes to process, especially administrative procedures in the fields of investment, construction, and land authorization. Publicize administrative procedures, strengthen the application of information technology, implement an e-government model, and effective processes and improve the role of the Provincial Public Administration Service Center.

- Review, amend and develop provincial mechanisms and policies to create an open, transparent

and favorable business environment for organizations and individuals to participate in investment and doing business, ensuring public principles and equality for all individuals and organizations. Actively promote measures to remove difficulties for businesses and investors, support businesses to access information, markets, land, technology, credit...

- Publicly and transparently implement the planning process and orientations for socio-economic development and attracting investment for the province, ensuring equality between the private sector and the state economy, between large enterprises and small businesses, and between domestic and foreign enterprises.

## **5.2. Focus on investing in building infrastructure to attract investment**

Concentrating all resources to build essential socio-economic infrastructure to serve the province's investment attraction, specifically:

*Transport infrastructure development:* Focusing on prioritizing investment, renovating, upgrading, and expanding crucial traffic networks, the lifeblood of regional and inter-regional connectivity, connecting key tourist areas, IZs, and ICs to attract industrial development, tourism, developing and expanding urban space, create space and driving force for socio-economic development.

*IZs and ICs infrastructure development:*

- Invest synchronously in the infrastructure of IZs and ICs to create a workable land area to attract strategic investors, especially modern technology projects, support for high technology application, with cooperation to transfer technology and participate in global value chains, can contribute greatly towards province's budget, use land efficiently and ensure the protection of the environment. Strengthen the promotion, calling, and attract investment to fill the existing industrial zones and clusters with the operational area.

- Review existing investment projects, resolutely handle according to regulations projects that are behind schedule, and use land inefficiently, to create operational land for new and highly feasible investment projects. Closely monitor the use of infrastructure by investors; strengthen environmental management, security and social order management, and traffic safety in ICs and IZs.

## **CONCLUSION**

Ninh Binh is an ancient capital with a long historical and cultural significant tradition, strategically located in the Red River Delta, Hanoi Capital, and the Northern key economic region. In recent years, with efforts and determination to create breakthroughs able to raise the province's position on the country map, as well as comprehensively develop in a fast and sustainable direction, Ninh Binh province has implemented the policy of focusing on industrial production, completing infrastructure, attracting investment projects in IZs, with a focus on developing industries using high, clean, environmentally friendly technology, increase product value and can contribute significantly to the province's budget.

However, some of these results are still not commensurate with the development potential of the province, especially in the management and attraction of foreign direct investment. In addition to the advantages of natural conditions, socio-economic situation, and political stability, there are still limitations that Ninh Binh province needs to overcome to maximize its advantages to improve efficiency concerning public management of foreign direct investment attraction.

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# RESEARCH TO INNOVATE VALUE CHAIN-BASED AGRICULTURAL PRODUCTION OF HANOI CITY TO INCREASE LOCAL BUDGET REVENUE

Pham Xuan Toan<sup>1</sup>

**Abstract:** *This paper investigates the issues in value chain-based agricultural product development in Hanoi. It has analysed the theoretical foundation for the value chain-based agricultural production and the practical issues in Hanoi's agriculture. Based on evaluations of success and limitations in innovating value chain-based agricultural production in Hanoi, the paper provides recommendations for the development of value chain-based agriculture in the coming years.*

**Keywords:** *value chain-based, agricultural production, Hanoi*

## 1. A NECESSITY FOR INNOVATING VALUE CHAIN-BASED AGRICULTURAL PRODUCTION IN THE INTEGRATION PERIOD

### 1.1. Theoretical basis

Although the international economic integration brings many opportunities to expand export markets for agricultural products of Vietnam, it also brings many challenges because it is difficult to comply with the rules of origin to ensure the right to enjoy preferential tariffs. In addition, the international economic integration also increases competition in the domestic market because tax barriers are gradually reduced while it is difficult for Vietnam to use nontariff barriers as a protection measure. Competitive pressure will also narrow the production of some agricultural products in which Vietnam does not have strengths. It makes the competitiveness and participation level in the global value chain of our country's agricultural products still low, especially in the high value-added stages. Therefore, creating and developing an agricultural value chain to meet the needs of the international market is an urgent requirement in the current context of extensive and intensive international integration. In recent years, the agricultural sector has been reorganizing production in the direction of cooperation, value chain linkage, adhering raw material production to value chain-based processing and product consumption, connecting to the global consumption system. The strengthened processing and added value of products have created more jobs and higher incomes for Vietnamese farmers. Thereby, some types of agricultural products of Vietnam and some separate value chains of enterprises have participated in high value-added stages in the global value chain. The accession to the WTO in 2007 and then the execution of thirteen bilateral and multilateral free trade agreements (FTAs), including some new generation FTAs, notably CPTPP and EVFTA, have been continuing to pave the way for the world market penetration of Vietnamese agricultural products.

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Facing up with such advantages and challenges, Hanoi has many policies to restructure the agricultural sector, in which the new focus on production according to chain linkages is the leading model in agricultural production that helps participants in the linkage develop a production process in the efficient-safe-sustainable direction; attracts enterprises to invest in agriculture, adheres production, preparation, preservation and processing to consumption; improves the level of production for farmers and the competence and skills for linking chain managers, builds brands and promotes, markets the products. It helps state management agencies focus on, unify directions in sustainable agricultural and rural development, practically contributes to promoting the development of key products of the city according to concentrated specialized production areas; organizes production in an advanced and modern form, ensures the protection of the rural ecological environment and creates high added value for the linking chain from production to consumption; enhances the position of the Capital's agriculture in the mind of domestic and international consumers.

## **1.2. Concept and role of value chain-based agricultural products development**

### **1.2.1. Concept**

**(1) Concept of agricultural products:** In a general sense, agricultural products or agricultural commodities are construed as agricultural products which are used for exchange, purchase, and sale.

**(2) Concept of the value chain:** In a narrow sense, the value chain is understood as a series of activities performed in an enterprise to produce a certain product; in a broad sense, it is understood as a combination of activities performed by many participants (primary producers, processors, merchants, service providers, etc.) to transform raw materials into products for retail. The value chain consists of human factors and product production and improvement activities via the connection of producers with processors and markets. An agricultural value chain, therefore, is a set of activities performed by many different participants to produce agricultural products, which are then sold to consumers. The agricultural value chain model helps discrete development links connect to add value, improve the competitiveness of agricultural products, and create a new production ecosystem in the countryside to bring new opportunities to everyone. The agricultural value chain model is a combination of activities related to agriculture, including activities with mutual relations: “supplying inputs => organizing production => processing => consuming agricultural products”.

**(3) Concept of value chain-based agricultural products development:** By studying the concepts of agricultural products, and value chain and analyzing their connotations, the dissertation gains the following concept: *value chain-based agricultural products development is the whole activities of the subjects to add value at each stage in the process from input supply, production, procurement, preliminary processing, distribution to consumption of agricultural products and to ensure the harmony of economic benefits for all participants in the chain.*

### **1.2.2. Role of value chain-based agricultural products development in the socio-economic development**

- Value chain-based agricultural product development is the motivation to promote the development of agriculture and other relevant economic sectors.

- Value chain-based agricultural product development is an important solution to accumulate capital for industrialization and modernization.
- Value chain-based agricultural product development has an important role in assuring national food security.
- Value chain-based agricultural product development contributes to the expansion of the market and the development of new economic models.
- Value chain-based agricultural product development is the optimal option to create jobs, increase income and improve life for farmers.
- Value chain-based agricultural product development contributes to the promotion and expansion of international economic cooperation.
- Value chain-based agricultural product development allows for the best exploit of the competitive advantages of Vietnam.

## 2. PRACTICAL BASIS

There are more than 8.09 million people living and working in Hanoi, the Capital's scenic spots annually welcome about 20 million tourists, and the daily demand for safe and high-quality agricultural products is very high, specifically about 3,100 tons of rice, 620 tons of pork, 178 tons of beef, 3,443 tons of vegetables, etc. However, Hanoi's production only meets about 50% of people's daily consumption needs, the rest must be bought from domestic provinces and imported from foreign countries.

Hanoi has a natural land area of 3,359.0 km<sup>2</sup>, with 30 district administrative units (of which 24/30 administrative units have agricultural production, including 17 districts, 1 town and 6 urban districts); 584 wards, communes, and towns, including 386 communes. Currently, Hanoi's agricultural land area is about 1,958.0 km<sup>2</sup> (equivalent to 195.8 thousand hectares), accounting for 58.3% of the total natural land area. In which: land for rice cultivation is 108,300 ha (accounting for 32.24%); Land for perennial crops is 20,400 ha (accounting for 6.1%); Forest land is 22,250 ha (accounting for 6.62%); Aquaculture land is 14,200 ha (accounting for 4.2%); Other agricultural land is 5,200 ha (accounting for 1.5%)<sup>1</sup>.

Agriculture is identified as a key economic sector that plays a very important role in the sustainable development of the Capital; therefore, the innovation in agricultural production according to chain linkages is a great concern of all levels of Party committees and authorities in the city; it contributes to the growth of 2.53% of the Capital agriculture in the period 2015-2020; agricultural added value in 2020, reaching 4.2%; the value of agriculture, forestry and fishery production, reaching 38,093 billion VND; production value structure in 2020: cultivation, forestry, reaching 41.55%; livestock and aquaculture, reaching 56.22%; agricultural services, reaching 2.23%<sup>2</sup>.

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1 According to Report no. 398-BC/BCSD dated 07/7/2020 of the Party Civil Affairs Committee – City People's Committee.

2 According to Report no. 23/BC-SNN dated 18/01/2021 of the Department of Agriculture and Rural Development on task implementation results in 2020; main tasks and solutions in 2021.



Hanoi city soon completed the development, checking, adjustment and addition of the master plan for the socio-economic development and specialized plans, plans of key fields, and products of the city. The plans are made according to the market demand and advantages of the Capital that ensures the economical and efficient use of natural resources and land, restructures crops and livestock, and gradually forms concentrated and specialized production areas in close connection with effective exploitation of the potential and strengths of each region to help the city’s agricultural production develop comprehensively. The structure of the agricultural sector has shifted positively in the direction of reduced cultivation, and increased livestock and services. At present, the city has established some typical value chains such as pork, beef, poultry meat, chicken eggs and processed products, etc.

Although agricultural output has increased sharply, the value of agricultural production in Hanoi is still not high. It is mainly because the value chain-based agricultural products development of Hanoi city is still limited that makes the production value of the agricultural sector not proportional to the potentials and advantages of the capital such that small-scale production of household businesses still accounts for a large ratio; the innovation of production organization model takes place very slowly; the linkage among subjects in the production linkage is still weak; the application of scientific and technological advances in production and processing is not high; trade promotion, market research, and connection between businesses and farmers are still loose; the determination of key products of Hanoi city is spreading widely; it has not yet paid attention and focused on development of many valuable specialty plant varieties; the orientation of farmers in maintaining and developing products has not been given proper concern; there are still people leaving their fields and gardens to do other works for money, etc.

**Table 1: SWOT analysis for the agricultural development of Hanoi city**

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>- The agriculture in Hanoi gets more and more concern and investment of the City;</li> <li>- The structure of the agricultural has been shifting positively and the value of agricultural production has been always increasing in the last 10 years;</li> <li>- Agricultural science research centers locate in the area, so the process of urban agricultural development has advantages in accessing to and promoting the application of science and technology (agricultural production with high technology application);</li> <li>- The workforce in the City is abundant and their qualification is increasingly improved;</li> <li>- The urban agriculture in the City is attractive and potential;</li> <li>- With the typical characteristics of an urban agriculture which develops in the direction of sustainable economy and environmental ecology, the urban agriculture of the City has an important role in creating the green belt.</li> </ul>	<ul style="list-style-type: none"> <li>- The agriculture in Hanoi is still fragmented; the application of high technology in production is still limited; The role of Cooperatives is still weak in linking production and consumption of products;</li> <li>- There is no policy which is strong enough to encourage the agricultural development with high technology application;</li> <li>- The orientation role of State management agencies in agriculture is still weak;</li> <li>- The rural infrastructures of suburban areas of Hanoi are not synchronous so it is unable to satisfy the production demand and daily life and the people there;</li> <li>- The urbanization process quickly narrow the agricultural land.</li> </ul>

OPPORTUNITIES	CHALLENGES
<ul style="list-style-type: none"> <li>- The issues of agriculture, farmers, rural areas in general and urban agricultural development in particular are always the “focal points” in the socio-economic development guidelines and policies of the Party and State;</li> <li>- The agriculture in the city has continuously increased for a long time;</li> <li>- The agriculture of the City has easy access to urban services, especially advances from the industrial revolution 4.0.</li> </ul>	<ul style="list-style-type: none"> <li>- The competitiveness of agricultural products in Hanoi is strongly affected by agricultural products of neighboring areas and imported products;</li> <li>- The environmental pollution and the unfinished production planning are still spontaneous without orientation for each region, each product line;</li> <li>- The development of the city’s agriculture still has challenges such as: The quality of human resources, the low indicators of education &amp; training, vocational training in some suburban areas of the city.</li> </ul>

Therefore, to increase the value, enhance the competitiveness for agricultural products of Hanoi city in the coming time, it is necessary to innovate the value chain-based agricultural development in the coming time.

## **2.1. Experience of some localities in the value chain-based agricultural products development**

### **(1) Experience of Lao Cai province in the value chain-based agricultural products development:**

- Advantages:

*Firstly*, choose “specialty”, special products only existing in the province for the value chain-based agricultural products development to maximize the comparative advantages.

*Secondly*, develop chains in appropriate scale.

*Thirdly*, strengthen the role of state management agencies in managing, supervising the contract performance among the parties.

*Fourthly*, attach much importance to vocational training for rural workers.

- Limitations to be noticed:

*Firstly*, the relationship among businesses, cooperatives and farmers has not been harmonious in terms of demand and benefits.

*Secondly*, farmers are completely dependent on businesses in terms of price of input materials and output products.

### **(2) Experience of Yen Bai province in the value chain-based agricultural products development:**

- Advantages: In addition to the advantages similar to ones of Lao Cai province, the outstanding advantage of Yen Bai province in the value chain-based agricultural products development is the promotion of cooperation among links in the value chain.

- Limitations to be noticed: Most of the agricultural products value chain of Yen Bai province only stops at the linkage of some stages in production such as the linkage of farming households in cooperation groups, and cooperatives without creating a value chain-based linkage model (longitudinal linkage) from producers to consumers.

### **(3) Experience of Hoa Binh province in the value chain-based agricultural products development:**

- Advantages:

*Firstly*, clearly delimit the responsibilities of participants in the value chain which are concretized in contracts.

*Secondly*, focus on instructing agricultural products, forestry products, aquatic products production and trading facilities in the province to apply food safety product process, comply seriously with VietGAP standards to bring products to the market with clear labels and origin.

- Limitations to be noticed:

*Firstly*, Hoa Binh province still focuses much on input materials supporting and infrastructure without paying attention to the output and product quality.

*Secondly*, there are not many cooperatives participating in the value chain.

### **2.2. Learned lessons as reference for Hanoi city for its value chain-based agricultural products development**

*Firstly*, promote the research and development of new varieties with good productivity and high quality to meet the market demand.

*Secondly*, promote the efficient, appropriate application of progressive production processes such as: VietGAP, GlobalGAP, etc. in production.

*Thirdly*, strengthen the participation of farmers in the product value chain.

*Fourthly*, attach importance to investment in building brand and geographic instructions.

*Fifthly*, complete mechanism, policies of encouraging, developing production linkage and cooperation in close connection with the consumption of agricultural products.

## **3. RESULTS OF VALUE CHAIN-BASED AGRICULTURAL DEVELOPMENT OF HANOI CITY IN PERIOD 2015-2020**

### **3.1. Development of key products and concentrated specialized production areas**

In implementing Decision No. 3215/QĐ-UBND dated 14 June 2019 of the Hanoi People's Committee on promulgating the list of concentrated specialized production areas in Hanoi city and the criteria for agricultural production with high-tech application of Hanoi city.

Up to now, Hanoi city has developed more than 5,000 hectares of safe vegetable production, 40 vegetable models applying the Participatory Guarantee System (PGS) in 40 communes, wards, and towns in 18 districts, district-level towns with a total area of over 1,700ha. There are over 2,500ha of VietGAP cultivation, 181ha of VietGAP aquaculture, 88 VietGAP livestock facilities, and nearly 40ha of cultivation according to organic agricultural standards and 164 agricultural models with hi-tech applications. The concentrated specialized production areas with safe and high-quality products are the foundation for the chain linkage from production to consumption of agricultural products.

### **3.2. Development of chain linkage from production to consumption in Hanoi city in the period 2015-2020**

In the period 2015-2020, Hanoi City has developed and maintained 141 chains from production to consumption of agricultural-forestry-fishery products, including 59 chains for products of animal origin and 82 chains for products of plant origin. In the typical chains attract the participation and cooperation of many enterprises, cooperatives, and farmer households in chain development including:

- Ba Vi hill chicken production and supply chain: The chain's regular livestock scale reaches 120,000 broiler chickens. It supplies about 1,000kg to the market every day, including 660kg of broiler chickens which have been slaughtered, packed, vacuum sealed, ensuring food safety with "Ba Vi hill chicken" brand.

- Quoc Oai biological pork production and supply chain of Dong Tam Livestock and Service Cooperative, organized in Quoc Oai district. The chain's regular livestock scale reaches 400 commercial pigs, with 100% self-mixed feed supplemented with probiotics. Every day, the chain provides the market with about 0.5 tons of pork, ensuring food safety with "Quoc Oai Biological Pork" brand through retail stores, restaurants, and kitchens in Quoc Oai district and some urban districts.

- Tien Vien food production and supply chain, organized by Tien Vien Joint Stock Company in association with large-scale livestock-breeding households in Chuong My district. The production scale of the chain reaches an average of 72,000 eggs/day. Tien Vien chicken eggs are being consumed at over 100 retail stores, supermarkets, restaurants, and some food processing companies inside and outside the city.

- 3F clean food production and supply chain, organized by 3F Clean Food Processing Joint Stock Company in a closed chain. The scale and production capacity include 01 slaughterhouses, 100 chicken farms (with 250,000 broiler chickens); 15 wild boar farms (with 750 sows, 25,000 pigs for meat). The supply and consumption reached 2.7 tons of pork; 2.0 tons of chicken meat; 100,000 eggs/day.

- A-Z Meat production and food supply chain, organized by Hoang Long Cooperative (Tan Uoc, Thanh Oai) in a closed circle from the production of livestock feed, livestock breeding to slaughtering, processing and consumption. Currently, the chain supplies about 2.2 tons of pork to the market every day, including about 900 kg of slaughtered, packaged, and processed pork ensuring food safety with "AZ Food" trademark.

- Hanoi beef product production and supply chain model:

Thang Loi beef chain, implemented by Thang Loi Trading Development Co., Ltd., currently consists of 1 beef farm with capacity of 400 beefs/litter, regular breeding of 250 beefs, 01 semi-industrial beef slaughterhouse with regular slaughtering of 07-10 beefs/day, daily supplying about 1.5-2.0 tons of beef to the market with assurance of food safety.

The BBB beef chain was established by the association between Hanoi Livestock Breeding Joint Stock Company and large-scale beef farms in key beef-breeding communes of the City. At present, the chain is organizing to supply BBB beef products to the market with the "HLBC" trademark and annually has over 20,000 BBB beef breeds supplied to different provinces.

- In addition, it managed to build 40 protected trademarks such as Soc Son hill chicken, Son Tay Mia chicken, Van Dinh duck, Dai Thanh longan fruit, Boi Khe fragrant rice, etc.<sup>1</sup>

It conducted pilot issuance of 8 certificates for 8 facilities of 15 vegetable and meat chains with 18 safe agricultural products and food business sites in the city and neighboring locations and propagated, promoted safe products in chain to serve people.

The chains with 1,379 products are strictly controlled and distributed to 110 supermarkets, over 1,400 general stores, and 300 stores specialising in agriculture-forestry-fishery products in the city.

**Table 2: Quantity of agricultural products supplied by different chains to Hanoi market every day in the period 2015 - 2022**

No.	Description	Daily supplied quantity
1.	Pork	60 tons
2.	Beef	02 tons
3.	Poultry meat	36 tons
4.	Eggs	300,000 eggs
5.	Processed meat	40 tons
6.	Fresh milk	80 tons
7.	Safe vegetables	100 tons

Every day, the chains supply over 60 tons of pork, 2 tons of beef, 36 tons of poultry, 300,000 eggs, 40 tons of processed meat, 80 tons of fresh milk and nearly 100 tons of safe vegetables to Hanoi market. Some models of livestock product production and consumption chains operate effectively, such as: Son Tay Mia chicken chain, Soc Son hill chicken chain, Ba Vi hill chicken chain, Quoc Oai biological pork chain, IDP dairy chain, A-Z food chain, Tien Vien egg chain, 729 egg chain, Organic Green food chain, Thuy Thien Nhu pork chain, Bao Chau organic pork chain, Vinh Nga dairy chain, etc. Some active plant chains operate efficiently, such as Kim An sugar orange, Que Duong pomelo, Phuc Tho pomelo, Chuong My pomelo, Yunnan banana, Co Bi bananas, Dac So Buddha's hands, Bach Ha pomelo, Boi Khe fragrant rice, Bac Son tea, Thanh Van Bo Nau rice, Soc Son yellow flower sticky rice.

The certification for the supply chain of safe products has been concerned and directed by the city: pilot issuance of 8 certificates to 8 facilities of 15 vegetable and meat chains with 18 food business sites. Through the certification of the safe food supply chain, it initially established points of sales for safe agricultural product which are regularly controlled, monitored with positive feedback from consumers to build, connect products and safe product chains to serve people.

### **3.3. Results of cooperation program among provinces, cities which develop vegetable and meat supply chains for Hanoi city in the period 2015-2020**

#### *\* Development of safe product production and supply chains*

In implementing Decision no. 1791/QD-BNN-QLCL dated 19 May 2015 of the Ministry of Agriculture and Rural Development promulgating a cooperation program to develop safe vegetable

<sup>1</sup> According to the Report no. 123-BC/TU dated 26/8/2021 summarizing the Resolution no. 26-NQ/TW of the Central Committee of the Communist Party of Vietnam in the 10<sup>th</sup> tenure on agriculture, farmers, and rural areas.

and meat supply chains for Hanoi city, Hanoi city has been active and proactive in connecting production, quality management and development of agriculture-forestry-fishery food supply chains with 21 provinces and cities in the Coordination Committee. Up to now, the city has built and developed 786 safe food supply chains, including 253 safe food supply chains which have been certified in accordance with the criteria set by the Ministry of Agriculture and Rural Development.

The estimated monthly demand for agricultural products in Hanoi is as follows: Rice: 92,970 tons; live pig for meat: 18,594 tons; beef: 5,230 tons; chicken and duck meat: 6,198 tons; vegetables: 84,100 tons, etc. At present, Hanoi has 18,500ha of vegetables, 19,500ha of fruit trees; about 23,000 buffaloes, about 130,000 cows, 1.05 million pigs, 32.5 million poultry; aquaculture area of 24,000 ha. With the current capacity, Hanoi's agricultural production can meet 58% of the demand for meat, 70% of all kinds of fish, 90% of poultry eggs, 65% of fresh vegetables, etc. The remaining shall be provided by other provinces and cities to Hanoi as follows:

**Table 3: Volume of agricultural products supplied to Hanoi City through distribution channels, supermarkets, food chains, and mechants in the period 2015-2020**

No.	Content	Hoa Binh province	Vinh Phuc province	Lang Son province	Ha Nam province	Bac Kan province	Yen Bai province	Son La province	Tuyen Quang province	Hung Yen province
1	Pork	2,500 tons			2,000 tons			330 tons		
2	Beef	500 tons								
3	Chicken, poultry	1,000 tons			1,200 tons					
4	Fishery products	1,500 tons	4,000 tons							
5	Eggs		250 million pcs							
6	Pork rolls		30 tons							
7	Vegetables of all kinds	320 tons	80,000 tons	20 tons	11,800 tons	263 tons	10,000 tons	9,040 tons		1,100 tons
8	Processed agricultural products in all kinds	300 tons		50 tons	700 tons				1,650 tons	

**Table 4: Annual volume of products supplied from some supply systems to Hanoi market<sup>1</sup>**

No.	Suppliers	Volume supplied daily
1	Vinmart system	19,000 tons
2	Masan Company	360 tons
3	BigC Thang Long supermarket	4,600 tons
4	Saigon COOP Hanoi supermarket	1,800 tons
5	Masan Company	360 tons

<sup>1</sup> According to the report dated 30 July 2021 in service of the Working Conference with the Ministry of Agriculture and Rural Development dated 31 July 2021 by the Department of Agriculture and Rural Development

The number of products consumed by some localities via distribution channels, supermarkets, food chains, and traders in Hanoi has increased significantly in the last 5 years, specifically: every year, Hoa Binh province supplies Hanoi city with an average of 200 tons of organic vegetables, 120 tons of citrus fruits of all kinds, 2,500 tons of pork, 1000 tons of chicken, 500 tons of beef; 1,500 tons of Da River fish, more than 300 tons of processed agricultural products of all kinds. Vinh Phuc province supplies 80,000 tons of vegetables and fruits, 250 million chicken eggs, 3,200 tons of broiler, 15,000 tons of pork, 4,000 tons of aquatic products, 30 tons of pork bologna, and fried pork roll. Lang Son province provides about 20 tons of vegetables, tubers, and fruits; more than 50 tons of processed products such as chilli bamboo shoots, dried flat rice noodles, black jelly, and fruits of all kinds. Ha Nam province supplies about 15,000 tons of agricultural and aquatic products, including about 20,200 tons of pork, and about 1,200 tons of poultry which have been quarantined, the rest are vegetables, tubers, fruits, and rice. Masan Company - Ha Nam branch supplies supermarkets in Hanoi (MEAT Deli, Vinmart store chains, etc.) with 680 tons of pre-processed and packaged pork. Son La province supplies 3,260 tons of vegetables of all kinds; 5,784 tons of fruits of all kinds; 330 tons of pork, etc. Bac Kan province supplies Hanoi city with 10 tons of speciality sticky rice, 3 tons of dried bamboo shoots; 250 tons of fragrant squash, etc. Yen Bai province supplies 10 thousand tons of oranges, pomelos, etc. Hung Yen province supplies more than 600 tons of vegetables; 500 tons of fruits. Tuyen Quang province supplies 1,649 tons of aquatic products, meat, tea, vegetables, and fruits, etc. In addition, 200 new local suppliers have connected local products to sell in different distribution channels in the city. Every year, the Vinmart system connects goods from provinces with estimated quantity of 19,000 tons, valued at 240 billion VND; BigC Thang Long connects goods from provinces with estimated quantity of 4,600 tons, valued at 89 billion VND; Saigon Co.op Hanoi connects goods from provinces with estimated quantity of 1,800 tons, valued at 37 billion VND; Hapro system connects goods with estimated value of 11.4 billion VND; Other distribution systems reach estimated value of 150 billion VND<sup>1</sup>.

*\* Commercial promotion, connection for product consumption*

The Coordination Board of the Cooperation program to develop safe vegetable and meat supply chains for Hanoi city clearly defines communication, advertisement, connection, and commercial promotion as an important solution to implement the Program. Therefore, connection and promotion activities become more and more diverse and rich, particularly:

- In the last 5 years, 20 delegations of managers, production facilities and enterprises operating in agriculture of Hanoi city have been organized and dispatched to provinces and cities to connect trade in 18 provinces and cities nationwide. The content of linkage and cooperation focuses on 02 fields which are linkage in production investment, technology transfer and linkage in agricultural product consumption in Hanoi.

- Develop the publication "Information on safe agriculture-forestry-fishery production and business facilities of Hanoi City and provinces in the Coordination Committee for vegetables

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<sup>1</sup> According to the Report dated 30/7/2021 for the Conference with the Ministry of Agriculture and Rural Development on 31/7/2021 of the Department of Agriculture and Rural Development

and meat supply chains of Hanoi city” in 2018, 2019, 2020. Introduce enterprises, production and business facilities participating in fairs organized by the Ministry of Agriculture and Rural Development, Hanoi People’s Committee.

- Every year, organize a conference to evaluate the results of the Cooperation program to develop safe vegetable and meat supply chains for Hanoi in the first 6 months of the year, and a summary conference at the end of the year. On the side of the Conference, booths are established to display and introduce safe agricultural products, regional, typical specialties of facilities which represent the production and supply chains of safe agriculture, forestry, and fishery products for Hanoi city.

- Assign the Department of Agriculture and Rural Development to regularly connect to provinces for the list of producers satisfying food safety conditions to promote the consumption of advantageous products of the city and vice versa.

### **3.4. Evaluation of value chain-based agricultural development in the period 2016-2020**

#### **3.4.1. Gained results**

The period 2015-2020 is the starting stage for value chain-based agricultural development but has created a new face for the agricultural sector, created a positive change for the capital’s agriculture in the direction of increasing added value, developing agriculture sustainably and catching up with the trend of economic and international integration. By the end of 2020, the country has 1,630 chains and 2,991 points of sales, in which Hanoi has built 141 chains (accounting for 8.8% of the total number of chains nationwide) with 70 points of sales; Hanoi and 21 provinces and cities supplying products to Hanoi have 786 chains (accounting for 48%) with 670 points of sales for chain products (22%). Thus, with only 21 provinces and cities supplying products to Hanoi (accounting for 1/3 of the provinces and cities in the country), the number of supply chains for Hanoi has reached nearly 50% of the number of chains nationwide. This is a very encouraging result in implementing the cooperation program to develop supply chains of agriculture, forestry, and fishery products for Hanoi city during the period 2015-2020.

- The construction and development of the chains initially create safe livestock and farming products with quality control at all stages; it helps producers enhance their awareness of safe and responsible products for the benefit of users which is one of the important stages in agricultural development in Hanoi.

- The creation of safe products is managed in a clear, transparent process and is widely propagated so that consumers are assured of product quality, helping to increase product value (increase product value by 15-20% compared to products not produced in chains) and expand the market. Many chains have established a system of agents, distributors, and convenience stores nationwide. nationwide table.

- By connecting livestock-breeding households into organizations such as Livestock and Consumption Associations, Cooperatives, etc., the joint purchase of input services has been successfully organized, so some costs have been reduced such as feed, veterinary drugs, and breeds. Besides, it also meets the consumption needs of enterprises and stores. Therefore, it has created



confirmed economic efficiency such as minimized production costs, stabilized selling prices in the market, etc.

- The cooperation program to develop safe vegetable and meat supply chains for Hanoi city in the period 2015 - 2020 has substantially implemented the contents of the Program. The localities participating in the Program have actively provided technical assistance to ensure food safety for production, business and distribution facilities in the safe vegetable and meat supply chains; Communication and promotion regarding production facilities, safe products, safe vegetable, and meat products under the Chain Program have been implemented through various and abundant connection and promotion activities. Regularly introduce production, preliminary processing, processing, and trading facilities which meet food safety requirements to coordinate the connection of consumption for agricultural, forestry and aquatic products.

### **3.4.2. Shortcomings, reasons**

#### **\* Shortcomings, limitations**

- The ratio of chain-controlled agriculture-forestry-fishery production out of all products sold in Hanoi is still low.

- The density of agro-forestry-fishery production is controlled by the chain among all products consumed in Hanoi and the percentage of products whose origins are traced is still low, so most products are still consumed in the wholesale markets of Hanoi city without stamps or labels. The forecasting of agricultural product consumption markets as well as the provision of market information and output of agricultural products in and out between provinces, cities and Hanoi and vice versa have not kept pace with the production situation.

- The results of developing chains and the quantity of vegetable and meat products consumed in the city are still uneven among localities because the implementation of the production area planning in some localities is still loose, agricultural production is still small and fragmented, there are not many production areas which ensure quality according to VietGap, ISO, GlobalGap, Organic standards, etc. Product quality of each crop is not even, the ratio of agricultural products consumed through contracts and having traceability is still low; the linkage and the connection are not sustainable.

The chains from production to consumption of products are not multiple; there are no agricultural products with strong brands (large enough and stable output, uniform quality, food safety, competitive selling price) for export purposes. The development of agricultural cooperatives and farms is not commensurate with the potential and advantages of the Capital. The promotion of the effectiveness of OCOP products in consumption and enhancement of product value is still limited.

- The implementation of support for linkage projects/linkage plans pursuant to the Decree No. 98/2018/ND-CP dated 5 July 2018 of the Government and the Resolution No. 10/2018/NQ-HDND dated 5 December 2018 of Hanoi People's Council on policies to encourage the development of cooperation and linkage in the production and consumption of agricultural products is still confused.

- The synthesis and provision of market information, the quantity of input and output agricultural products from provinces to Hanoi and vice versa still have many difficulties. Hanoi has not built a complete logistics system to store products of the provinces safely with stable prices.

- The communication, propaganda and promotion of brands and products are still limited so such brands and products are not known by distribution enterprises and consumers while production households, cooperatives, and enterprises are still having difficulties in finding the exit for the products. The quantity of agricultural products, vegetables and meat supplied to Hanoi managed through a cooperation agreement has not met the demand yet.

#### *\* Reasons*

- Policies to support the development of inter-regional chains to support participants, and at the same time to build a material area large enough to supply for the capital and export is inadequate with obstacles in implementation.

- Some localities and units have not paid reasonable attention to the development of vegetable and meat chains and linkage chains in the area that results in agricultural products produced without labels, trademarks, and not consumed through major distribution channels.

- Some chain linkages are still incomplete, in small-scale, mainly in the form of “amicable sale” between producers and enterprises and product-consuming traders; If any entity sells at a low price, or an enterprise buys at a higher price than the market price, it will cause a disruption and break the signed linkage contract.

- At present, there are few distribution enterprises, supermarkets, and chain stores with transshipment centers and large warehouses to gather goods from suppliers and deliver goods to retail points of sales; local goods are mainly fresh and alive products delivered from suppliers to each retail point of sales of distributors, so the quantity of transported goods is not large; sometimes goods are not delivered on time due to distance, transportation duration that affects the quality of delivered products.

- Propaganda activity regarding safe products in the chains is not uniform in localities, and safe products supplied to Hanoi are still limited partly because provinces and cities do not have professional units and departments for agricultural trade promotion, so it is difficult for coordination and connection.

- The role of the government, agencies and units of the City in each time has not been highly focused in leading and directing the development of agricultural products according to the value chain, there is no solution to improve the investment environment to attract capital into agricultural and rural sectors.

## **4. DIRECTION, TASKS IN THE NEXT STAGE**

### **4.1. Targets**

#### **4.1.1. Common targets**

Contribute to fulfilling the annual average agricultural growth target of the city in the period 2021-2025 from 2.5% to 3.0%; restructure the agricultural sector and increase the ratio of value of agricultural products which apply high technology to over 70% by 2025.

Promote the development of key products of the city by concentrated specialized production areas; Organize production in an advanced and modern form, apply high technology, ensure the protection of rural ecological environment, and create added value for the production-consumption chain linkage.

Enhance the position of the Capital's agriculture; determine the leading role of enterprises, cooperatives as leaders of chain linkage; develop the collective economy with the main role of agricultural cooperatives; encourage farmers to actively participate in chain linkages, contributing to socio-economic development in rural areas of Hanoi city.

Effectively implement the Decree No. 98/2018/ND-CP dated 5 July 2018 of the Government and the Resolution No. 10/2018/NQ-HDND dated 5 December 2018 of Hanoi People's Council on policies to encourage the development of cooperation and linkage in the production and consumption of agricultural products and related regulations.

#### **4.1.2. Specific targets: Achievements to be reached by 2025**

- Support to develop and build 50 chain linkages in agricultural production for key agricultural products associated with concentrated specialized production areas of the city.

- 100% of the participants in the chain linkages take technical training courses, improve management skills, production techniques, competence of contract management, chain management and market development.

- 100% chain linkages in the production and consumption of safe agricultural products and food apply information technology to trace the origin with QR codes, transparent information to consumers.

#### **4.2. Contents and solutions**

##### ***(1) Propaganda works***

- Continuously organize the propaganda and awareness enhancement of all classes of people, people involved in agricultural production, and consumers about chain-based agricultural development and its positive impacts on economic and social life. Thereby all levels, branches, cadres and party members agree on roles, important positions, inevitability of agricultural development in chains; accountabilities of all levels and branches; guidelines, policies and laws of the Party and State for the development of chain linkages; about the need and objective requirements of continuing to consolidate, innovate and set up methods of chain-based agricultural development in the coming time.<sup>1</sup>

##### ***(2) Perfect the system of legal documents and linkage support policies***

- Review and synthesize difficulties and obstacles in organizing the implementation of policies to encourage cooperation and association in the production and consumption of agricultural products;

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<sup>1</sup> According to the targets stated in the Resolution of the 17th Hanoi Party Congress for the 2020-2025 term and the Work Program No. 04-TTr/TU of the City Party Committee on “Promoting the effective implementation of the National Target Program on Building a new countryside in association with restructuring the agricultural sector and developing the rural economy, improving the material and spiritual life of farmers in the period 2021-2025.

Propose the Central Government and the Hanoi City People's Council to amend, supplement the unavailable and inappropriate contents, to perfect institutions and policies to attract stronger participation of enterprises in the development of value chain linkage for agricultural products.

- Promulgate the guiding documents and regulations on the implementation of policies to encourage cooperation and association in the production and consumption of agricultural products in the locality.

- Review the planning of specialized and concentrated agricultural production areas on an annual basis and promptly adjusting them to ensure that they are consistent with the socio-economic development planning of each locality throughout the city. Promote the registration and management of production area codes to ensure export criteria.

### ***(3) Strengthen the scientific and technological application***

- Synchronously apply scientific and technical advances to production, achievements of the 4.0 revolution, biotechnology, mechanization, automation, Nano technology, etc. in the production process, preliminary processing, packaging, processing, and consumption of products to increase production value.

- Develop production towards safe, GAP, organic orientation. Step by step support and invest in infrastructure and technical equipment for several key high quality agricultural production areas in the districts, to promote mechanization and modernization of key stages in the process of agricultural production: production, preliminary processing, preservation, processing, improvement of production efficiency in key agricultural production areas.

- Encourage enterprises and scientific research agencies to cooperate with cooperatives in research, application, and technology transfer for production of plant varieties, livestock, preservation, and processing.

### ***(4) Human resource development***

Collaborate closely with agricultural human resource training institutions such as research institutes, universities, etc. to make linkage in training, knowledge transfer on agricultural development in accordance with the regular linkage for producers, enterprises, and managers.

### ***(5) Implement incentives and support policies***

- Support consultancy for linkage system building: Support the linkage owner with the cost of its building consultancy, including consulting, researching to build a linkage contract, linkage projects/plans, plans of production, business, and market development.

- Support infrastructure for the linkage: Support project of investment in machinery and equipment; construct infrastructure works in service of association, including factories, wharves, warehouses in service of production, preliminary processing, preservation, processing, means of specific transportation and consumption of agricultural products for linkage project.

- Support the training in production techniques, improve management skills, contract management capacity, chain management and market development for participants in chain linkage.

- Support varieties, materials, packaging, and product labels for a maximum of no more than 03 crops or 03 cycles of production and product exploitation for participants in chain linkage.

- Supporting transfer costs, application of new science and technology, application of technical processes and synchronous quality management for participants in chain linkage.

**(6) Develop a collaboration program between the People's Committee of Hanoi City with 21 provinces and cities, in which the accountabilities of each party are specified**

- Events such as fairs, conferences on market forecast information; propagating about products of provinces on the mass media channels of the central and city levels, etc. are to be organized by Hanoi City; agricultural products' quality is controlled before entering consumption channels of the city.

- People's committees of provinces with products should develop a plan of creating material areas to participate in the inter-provincial chain; control input sources and product quality before taking them to Hanoi.

#### **4.3. Method of deployment**

Focusing on reviewing enterprises and cooperatives in the city, which are participating in the production and consumption of agricultural products in order to orientate the establishment of chain linkages to meet requirements, specifically:

- (1). For enterprises and corporations doing outwork: material areas are reviewed and expanded in combination.

- (2). For small and medium enterprises associated with the production of seedlings and consumption of agricultural products in the locality: focus on supporting infrastructure, machinery and equipment, warehouses, workshops, etc., for processing to increase added value to serve the distribution system of domestic and export enterprises.

- (3). For cooperatives: focus on supporting material seedlings and technical infrastructure to create products with satisfactory quality to meet the requirements of distribution systems: supermarkets, safe agricultural product shops, collective kitchens (hospitals, schools, industrial parks, etc.)

#### **5. RECOMMENDATIONS AND PROPOSALS**

To synchronously implement policies on value chain-based agricultural development, associated with mechanization in agriculture, development of high-tech agriculture, organic agriculture and digital transformation agriculture; the following contents should be proposed by Hanoi City to the Central Government:

- Promulgating a policy to create an inter-regional chain: food-safe material areas are created to supply enterprises and consumers in the capital; which clearly assigns accountabilities among provinces and cities participating in the inter-regional chain, in order to overcome the oversupply situation in the process of joining the association.

- Permitting to construct a logical logistics center, which is important for deploying the inter-regional chain to serve the capital's consumers and exportation. There are policies supporting businesses to convert from traditional sale method to online sale.

- Adopting policies of encouraging the accumulation and concentration of land for agricultural production development.

- Considering to revise the Law on Land at Clause 3, Article 132 with two contents: (1) subjects eligible for land use right auction as agricultural cooperatives are added; (2) Land use term for each lease of the farms and agricultural cooperatives are revised and added for no more than 5 years and every 5 years the local government shall consider and evaluate whether such farms or agricultural cooperatives are working effectively in order to renew the contract, revise or adjust the land rental price appropriately with the fact.

- Promulgating a Decree to encourage the development of synchronous mechanization in agriculture as a ground for formulating a plan for development of mechanization in agricultural production in the period 2021-2025.

- Promulgating the guiding document of the Prime Minister's Decision No. 1840/QD-TTg dated 13 November 2020 approving the program of supporting the development of collective economy and cooperatives for the period 2021-2025.

- Promulgating guidelines and policies on farm economic development in superseding with the Government's Resolution 03/2000/NQ-CP dated 2 February 2000 on farm economic development.

- Promulgating a Circular to supersede the Circular No. 340/2016/TT-BTC dated 29 December 2016 of the Ministry of Finance guiding the level of support and financial mechanism for cooperatives' human resource training; establishing new cooperatives, reorganizing its activities under the Cooperative Development Support Program for the period of 2015-2020 to enforce the Decision No. 1804/QD-TTg dated 13 November 2020 regarding the Economic Development Support Program for collective organizations and cooperatives for the period 2021-2025.

- Promulgating a Circular guiding to enforce the Decree 98/2018/ND-CP dated 5 July 2018 of the Government to ensure consistency and clarity in the implementation process.

- Promulgating several technical and economic norms that are not available for localities to apply in the process of supporting agricultural chain linkages with high technology application; Models of organic agriculture, digital transformation in agriculture and circular economy./.

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# SUSTAINABLE DEVELOPMENT OF E-COMMERCE IN VIETNAM

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**Abstract:** Although the Covid-19 pandemic has had a strong impact on the economy, it has provided opportunities for the breakthrough growth of e-commerce in big cities of Vietnam due to positive changes from online shopping of both customers and businesses. The government has also planned to develop e-commerce in the period of 2021-2025 with the goal of spreading throughout the country. In this progress, the economic, social and environmental aspects are considered and critical towards sustainability. Therefore, this study used the qualitative research method and analyzed secondary data collected from wide sources in the purpose of assessing the development of e-commerce and based on that to propose solutions to ensure the sustainable development of e-commerce in Vietnam. The study found that e-commerce has maintained stable growth and contributed to the development of Vietnam's economy along with that of businesses and localities, brought the more convenient life to residents, created job and income opportunities for workers, reduced emissions and waste from transportation and paper transaction. The study also found some matters of e-commerce affecting much on the sustainable development. The study suggested five solutions based on these findings.

**Keywords:** e-commerce, sustainable development, economic, social, environment

## 1. INTRODUCTION

The Covid-19 pandemic has brought an opportunity for the breakthrough growth of e-commerce, contributing to making Vietnam one of the potential markets of Southeast Asia, with the scale of e-commerce in 2021 estimated at 21 billion USD, being third after Indonesia and Thailand (according to the Southeast Asia Internet Economy Report by Google, Temasek and Bain & Company). Along with the trend of technology development in the world, e-commerce in Vietnam is gradually forming, growing strongly and playing an increasingly important role in promoting industrialization and modernization of the country. However, along with development opportunities, e-commerce in Vietnam also faces many challenges in building a healthy and sustainable e-commerce market. And there is still no specific and comprehensive orientation for the sustainable development of Vietnam's e-commerce in all three aspects of economy, society and environment.

Oláh (2019) demonstrated the unification of three dimensions of e-commerce related to sustainability, however the gap of this study is that it only collected data of companies for analysis and comparison, so it did not given an overview of the sustainable development of e-commerce in

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the country scale. Kitukutha (2021) aimed to show the negative impact of Covid-19 on the socio-economic and to develop of e-commerce as a sustainable way, in addition gave recommendations to support the development of e-commerce in developing countries during and after the Covid-19 pandemic, however the study did not give specific matters on sustainable development of e-commerce. Vu Thi Nu (2020) systematized and clarified the theory of commercial sustainable development, analyzed and assessed the current situation of commerce's sustainable development in Binh Dinh, from findings the author proposed solutions to ensure the sustainable development of commerce. Although this study did not refer to the sustainable development of e-commerce, it is the foundation for building our study because commerce is inclusive of e-commerce. Recognizing the rapid development of e-commerce and exploring the potential of Vietnam's e-commerce, in March 2019, the Vietnam E-commerce Association (VECOM) proposed the program of sustainable e-commerce Development for the period of 2019 - 2025 with the goal of narrowing the digital gap between Hanoi, Ho Chi Minh City and 61 other provinces. Furthermore, in the plan of national e-commerce development for the period of 2021 - 2025, the Prime Minister especially emphasized the goal of building a healthy, competitive and sustainable e-commerce market. With specific goals of developing e-commerce scale, e-commerce development correlation between economic regions, promoting e-commerce application and developing e-commerce human resources. This plan only focuses on e-commerce development from an economic dimension, so it did not emphasized sustainability in e-commerce development.

In general, there were still not many studies related to the sustainable development of e-commerce in Vietnam. The above program and plan only oriented and provided solutions to develop e-commerce in a sustainable way, but did not really clarified about the theory of sustainable development and evaluation criteria for the sustainable development of e-commerce. Moreover, it was only generalized from economic and social dimension. This is the big gap of those previous studies, also is the foudation for our study to apply the theory of sustainable development of e-commerce in foreign studies to write this research with the clear analyzation about e-commerce in Vietnam in all three dimensions of economy, society and environment.

Stemming from the above situation, our study was carried out in order to outline the general picture of sustainable development of e-commerce in Vietnam in the period 2016 - 2021, in addition to practical factors affecting the sustainable development of e-commerce, and then solutions were proposed to promote e-commerce development in a sustainable way. The study formulated three aspects of economy, society and environment to assess the performance of developing e-commerce in Vietnam. To achive the research objective, the study used qualitative research method by collecting information and statistics from the General Statistics Office, E-commerce white paper of the Department of E-commerce & Digital Economy, E-business Report of VECOM. Thereby the study analyzed, compared through the stages and evaluated in the most general way about the sustainable development in Vietnam.

The study was organized as follows. It was continued with the presentation of theoretical basis for sustainable development of e-commerce and factors affecting the sustainable development of

e-commerce, and then described more details about research method and data used to express the performance of e-commerce. In the next section, the results are presented and analyzed based on data structured in tables and graphs, this also includes a discussion on outcomes. The final section has conclusions and suggestions to ensure the sustainable development of e-commerce in Vietnam in the coming period.

## 2. CONCEPT OF SUSTAINABLE DEVELOPMENT AND EVALUATION CRITERIA

In the lecture on sustainable commercial development in 2015, the definition of sustainable commercial development was mentioned as follows: “Sustainable commercial development is the growth of trade at a high rate continuously over a long period of time, and at the same time contributing to the stable economic growth; well implementing social progress and justice, improving the quality of life and ensuring social security; protecting and improving the quality of the environment” (Le Trinh Minh Chau, 2015, p.3).

Judit Oláh et al in 2019 pointed out the concept of sustainable development of e-commerce in their research: “sustainable development of e-commerce is a stable, reasonable and long-term development of e-commerce in terms of economic scale, ensuring quality of life and environmental friendliness” (Judit Oláh et al., 2019, p.5).

On that basis, the authors proposes the concept of sustainable development of e-commerce as the development of e-commerce must ensure the sustainability achieved in the present and for future generations. At the same time, it strongly combines three aspects of development that are economic, social and environmental. For e-commerce to develop in a sustainable way, it must be clearly demonstrated through these three aspects and evaluated through the specific criteria below.

**Table 1. Evaluation criteria for sustainable development of e-commerce**

Evaluation Criteria	How to identify	Reference
Economic dimension		
E-commerce market size	Revenue and revenue growth rate of e-commerce, B2C e-commerce.	Prime Minister (2016).
	The contribution of e-commerce to GDP.	
	Ratio of B2C e-commerce in total retail sales and service revenue nationwide.	
	Number of consumers participating in e-commerce.	
The development of e-commerce in enterprises	Average shopping value of online consumers.	Prime Minister (2016).
	The number of enterprises participating in e-commerce activities.	
	Diversity of online buying-selling channels.	
E-commerce development in localities	Average e-commerce index in localities.	VECOM (2019).
	The difference in e-commerce index between localities.	
Social dimension		

Job opportunities and income levels of e-commerce workers	Number of employees in the e-commerce industry. Average income of employees in the e-commerce industry.	
Satisfaction level of consumers in e-commerce	Survey on consumer satisfaction when shopping online. Criteria that online consumers are interested in and the reasons that they have not participated in e-commerce. Future online shopping needs.	Vu Thi Nu (2020).
Transparency in the e-commerce environment	Number of acts of smuggling, fraud, counterfeit goods, etc. in the e-commerce environment. Number of cases of e-commerce violations handled.	
<b><i>Environmental dimension</i></b>		
Waste from freight transport activities in e-commerce	Volume of goods transported. Average amount of waste and energy from freight operations. Control of waste from means of transport.	
Domestic solid waste from online shopping	Amount of domestic solid waste and percentage of waste from cardboard boxes, plastic and nylon packaging. Management of collection and treatment of MSW in online shopping activities.	Vu Thi Nu (2020).
Greenhouse gases from online activities	Levels of greenhouse gas emissions in the IT industry. Solutions to bring green energy into IT activities.	Carrillo et al (2014).

*Source: Compiled and built by the authors*

The study used the qualitative research method and analyzed secondary data. Secondary data collected in textbooks, books, published journals and researches; statistics of the General Statistics Office, E-commerce white paper of the Department of E-commerce & Digital Economy and E-commerce index report of VECOM. From the collected data, the study categorized and sorted, then made statistical tables and charts to compare, analyze and described e-commerce in the concern of sustainable development and impact factors, from which there is an overview of sustainable development of e-commerce in Vietnam. Because the statistical data about e-commerce in Vietnam are practically limited, the study also used the case study method to present some problems of enterprises and localities in a specific period, then deduce and make an overall assessment.

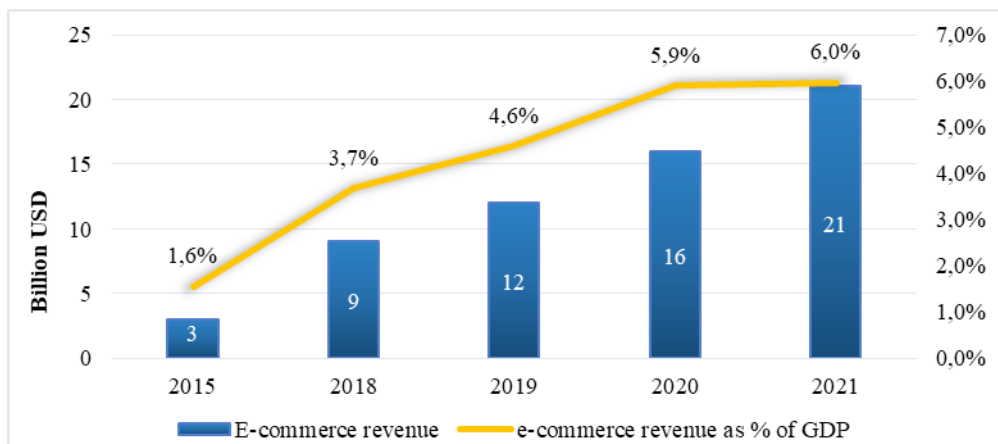
### **3. SUSTAINABLE DEVELOPMENT OF E-COMMERCE IN VIETNAM**

#### **3.1. Three-dimension of Vietnam's e-commerce sustainable development**

##### **3.1.1. Economic dimension**

###### ◆ E-commerce Market Size

###### ***E-commerce revenue:***

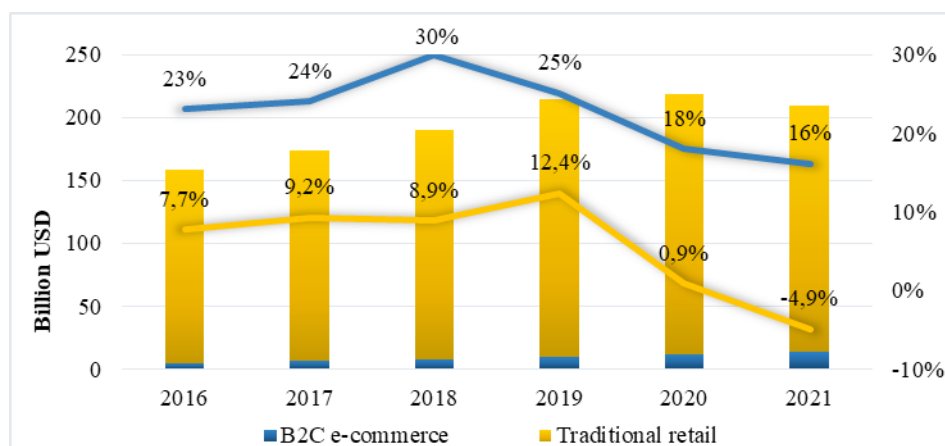


**Figure 1. E-commerce revenue and e-commerce revenue as percent of GDP (2015-2021)**

*Source: e-Economy SEA 2021.*

Current situation of E-commerce revenue is the clearest evidence to indicate the explosive development of e-commerce. Vietnam's e-commerce market is expanding, especially in the pandemic, driving e-commerce revenue to increase continuously, in 2021 rising to 21 billion USD. Beside that there was an increase in e-commerce's GDP contribution ratio. However, the rates in 2020 and 2021 are almost equal, proving that Viet Nam's economy has grown again with the development of other industries, not only the development of e-commerce.

#### ***B2C E-commerce revenue:***

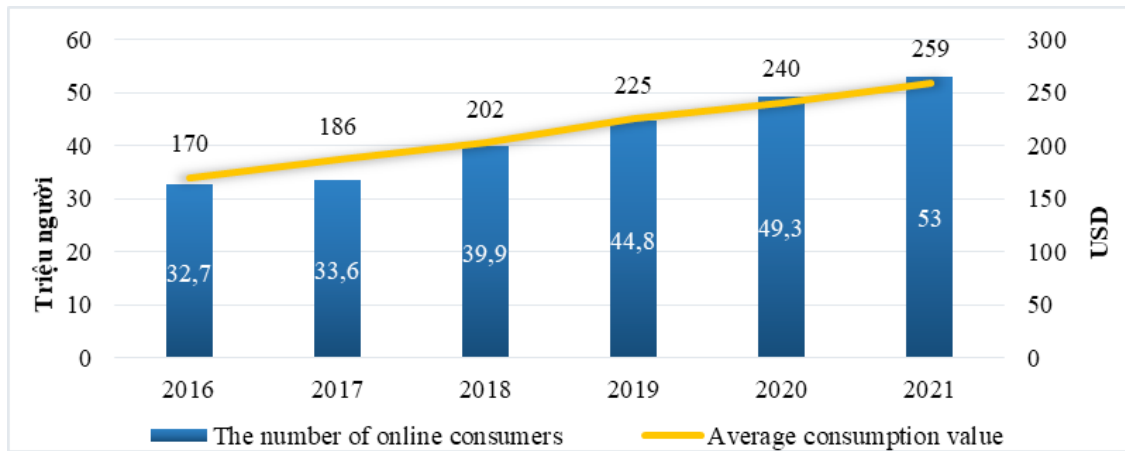


**Figure 2. Revenue and growth rate of B2C e-commerce and traditional retail (2016 - 2021)**

*Source: Viet Nam E-commerce Report 2021 và General Statistics Office of Vietnam.*

B2C E-commerce revenue also tends to increase, although compared to the revenue of retail is really small, because customers are used to buying directly at stores. However, the revenue growth rate of B2C e-commerce is still high, in the 2016-2020 period it reached 24%/year, exceeding the The Plan of E-commerce Development in the 2016-2020 period. It is clear that B2C e-commerce is the main driver of impressive numbers in Vietnam, where local e-commerce markets like Sendo and Tiki compete with Lazada and Shopee.

**The number of online consumers and average consumption value:**



**Figure 3. The number of online consumers and average consumption value (2016 - 2021)**

Source: Viet Nam E-commerce Report 2017, 2018, 2019, 2020, 2021.

Vietnam continuously recorded growth in both the number of consumers and the value of online consumption. In 2020, more than 50% of the population participates in online shopping, exceeding the plan. Meanwhile, spending on online shopping is lower than planned, due to the impact of Covid-19.

◆ The E-commerce development in Companies

**The number of companies implement E-commerce activities**

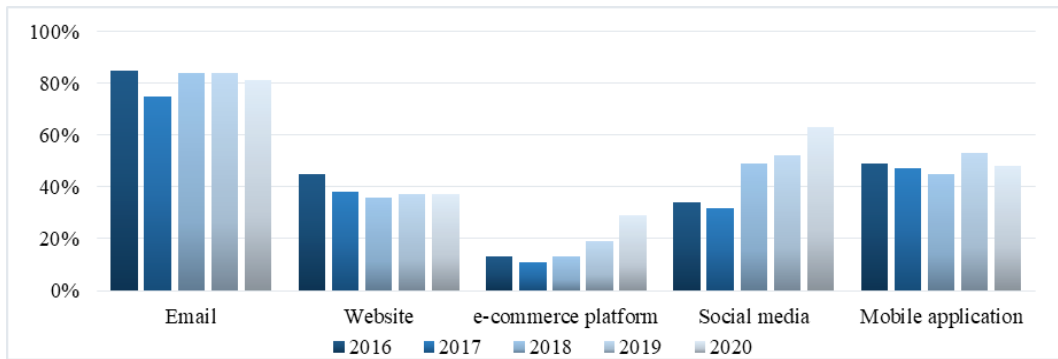
**Table 2. The number of companies implementing E-commerce activities (2016 – 2019)**

	2016	2017	2018	2019
The number of companies implement E-commerce activities	244.635	315.559	352.743	477.014
Total companies	505.059	654.633	714.755	758.610
Ratio (%)	48,4%	48,2%	49,4%	62,9%

Source: National statistics of E-commerce 2019.

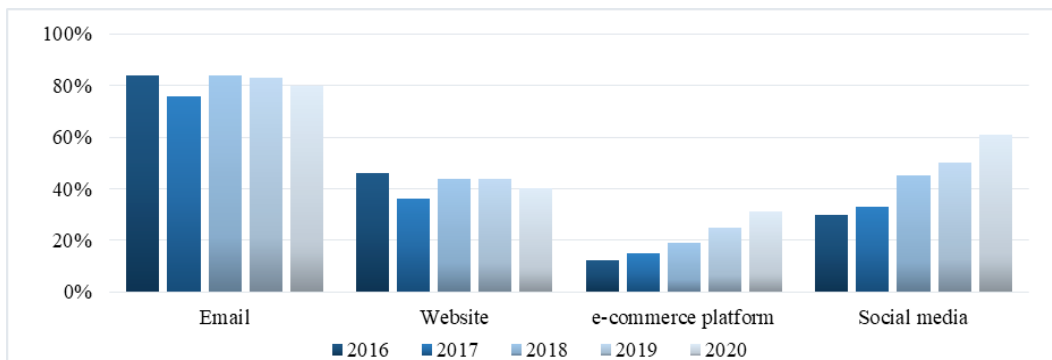
This figure indicates that there are more and more companies that have participated in e-commerce to support business. Moreover, this is an opportunity for them to access foreign markets. And also according to a survey by the Department of E-commerce and digital economy in 2021 of over 4,000 businesses, up to 99% of companies have connected to the internet with main import markets from Vietnam such as the US, EU, Japan, and Korea.

*The diversity of online business channels*



**Figure 4. The percentage of companies allowing online order (2016 - 2020)**

Source: Viet Nam E-commerce Report 2017, 2018, 2019, 2020, 2021.



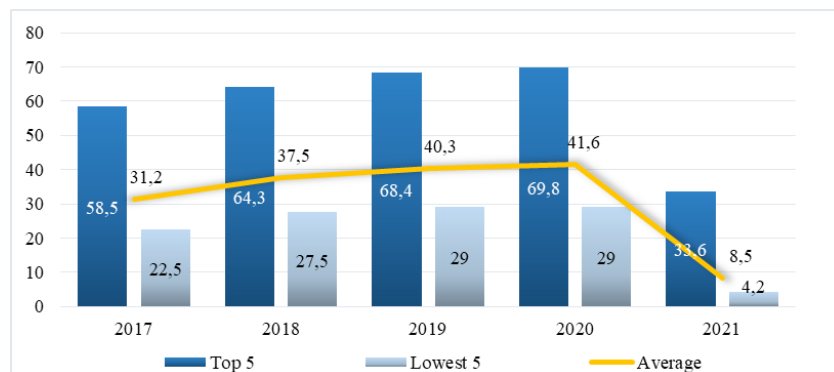
**Figure 5. The percentage of companies buying online (2016 - 2020)**

Source: Viet Nam E-commerce Report 2017, 2018, 2019, 2020, 2021.

Through the survey, companies said that email is the main online business channel. While the website is always evaluated by experts as an important channel, the rate over the years has not changed. On the other hand, companies are increasingly interested in social networks and e-commerce platforms. The percentage of companies trading through mobile applications has been still stable.

In general, the percentage of companies conducting online business achieves the target set out in the Plan for E-commerce Development for the period 2016-2020.

◆ The E-commerce development of localities



**Figure 6. Average E-Business Index of localities (2017 – 2021)**

Source: VietNam E-Business index 2017, 2018, 2019, 2020, 2021.

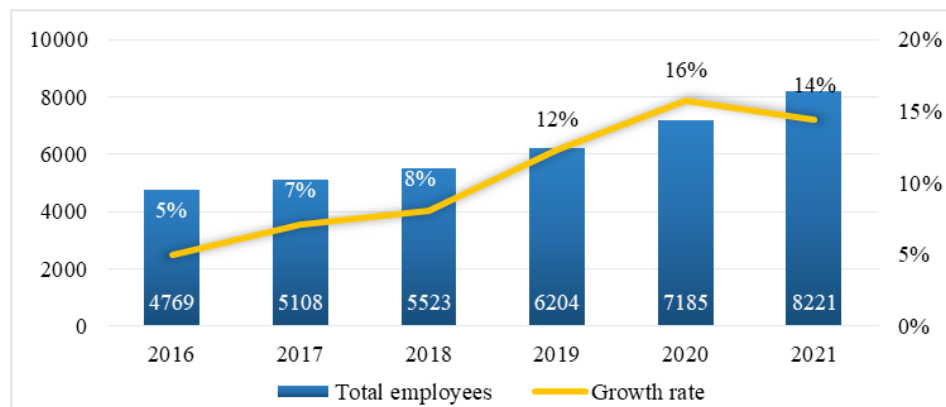
Average E-commerce Index of localities tended to increase, marking the development of e-commerce. However, it mostly focuses on Hanoi and Ho Chi Minh City. Ho Chi Minh City which continuously accounted for over 70% of the e-commerce market size. The difference between the average E-commerce index of the group of 5 lowest provinces and the group of 5 highest provinces gradually increased, reaching 40.8 points in 2020. Particularly in 2021, because B2G e-commerce is not included in the calculation (because most online public services are not implemented by the localities themselves but by ministries), the average e-commerce index in 2021 has a big difference from the previous period.

Thus, it can be seen that the gap in the level of e-commerce development between localities has hardly decreased. Although the government has taken many solutions to close the gap, the results are still low. This situation proves that localities have not been able to exploit their potential and take advantage of the opportunities of e-commerce, also, companies in these localities were slow to expand their business scale and increase business growth.

### 3.1.2. Social dimension

#### ◆ Job opportunities and income of e-commerce labors

##### *Job opportunities:*



**Figure 7. The number of employees at Shopee, Tiki, Lazada, Sendo, Grab, Gojek (2016 - 2021)**

*Source: Report of Employee Statistics at companies in VietNam from LinkedIn 2021.*

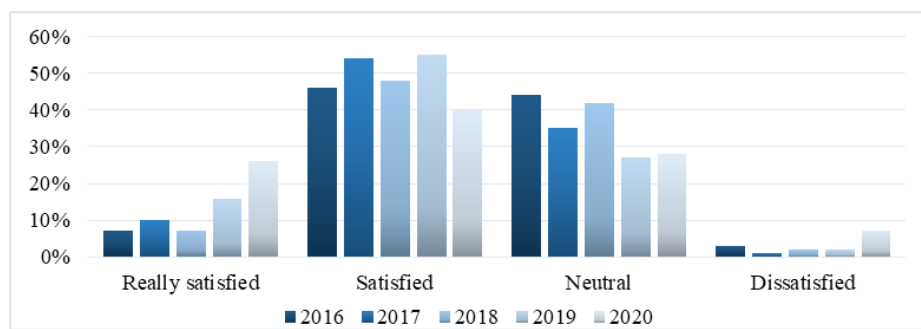
According to LinkedIn's statistics at some e-commerce companies, the total number of employees increased continuously, each company creating 100 new job opportunities per year. What an impressive number!

Furthermore, for manual workers, when e-commerce activities became popular, it also contributed to creating job opportunities for them. Specifically, the introduction of agricultural products, handicrafts that use a lot of rural and manual labor, on the e-commerce platform, not only helping to accelerate the consumption of goods but also increasing labor demand, thereby creating job opportunities for people. This can be seen from the data, according to the General Statistics Office in 2021 the epidemic affected the economy and labor, the labor force participation rate in rural areas was 69.3%, although in the previous periods there had been a continuous decrease in the rate (from 68.6% in 2016 to 66.9% in 2020).

### *The income of e-commerce labors:*

E-commerce in Vietnam is considered as one of the industries with higher salaries than other industries. According to the statistics of Glassdoor in 2021, the salary that an employee receives in Shopee Co., Ltd. - the company that owns the most developed e-commerce platform in Vietnam, ranges from 10 million to 55 million per month. With PATI Group Co., Ltd., an e-commerce company with a small scale and age, the salary of an employee in a month ranges from 6 million to nearly 50 million. Compared with the average monthly income of labor in Ho Chi Minh City (the province with the highest average labor income in the country) is nearly 7 million VND (according to the General Statistics Office VietNam in 2021), the income of labor in e-commerce companies is much better.

#### ◆ The satisfaction of E-commerce consumers

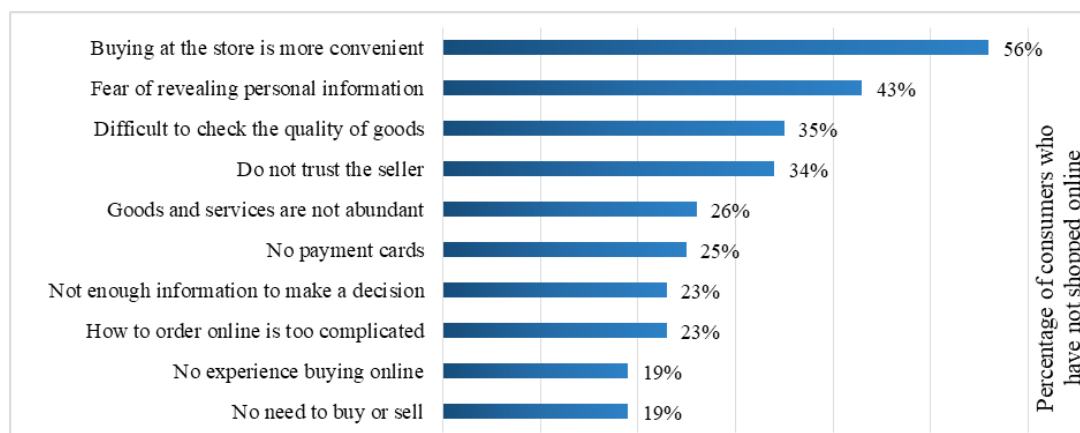


**Figure 8. The satisfaction of consumers in e-commerce (2016 – 2020)**

Source: VietNam E-commerce Report 2017, 2018, 2019, 2020, 2021.

According to the survey results of the Department of E-commerce & digital economy, the satisfaction of online consumers, although there was an increase in the very satisfied rate, can also see a decrease in the normal rate and an increase in the rate of dissatisfaction. This also partly reflects the development that is not yet completely sustainable.

Also in this survey, 95% of consumers believe that they will continue to shop online in the future, which shows that e-commerce can develop in the long-term future.



**Figure 9. The reason for not shopping online of consumers 2021**

Source: VietNam E-commerce Report 2021



It can be indicated from this chart that most consumers think that shopping at stores is more convenient to choose, check products, and communicate with sellers. In addition, the reasons for fear of information disclosure, difficulty in quality control, distrust of the seller, and not having enough information are quite high, proving that security in e-commerce is not guaranteed.

◆ The transparent in the e-commerce environment

Accompanying the popularity and development of e-commerce is the increasing commercial fraud. A number of new scams are appearing on e-commerce platforms, focusing on high-value goods and foreign-made products. Specifically, according to Mr. Tran Huu Linh - General Department of Market Management, in the past few years, frauds and scams have increasingly spread to websites, social networks and seriously threaten the general business environment and reduce the trust of consumers.

Currently, the General Department of Market Management has officially had a department dedicated to preventing and combating e-commerce fraud. As of October 2021 they have inspected nearly 2,500 cases, detected and handled over 2,300 violations, and fined over VND 18 billion.

In general, although the development of e-commerce leads to more sophisticated frauds and affecting the online business environment, state management agencies have actively addressed and managed well, helping to handle this problem.

### 3.1.3. Environment dimension

◆ Waste from freight activities in e-commerce

E-commerce is expected to contribute to reducing environmental pollution through reducing the number of times consumers go to the store. However, the development of e-commerce promotes the purchase of goods, leading to an increase in the amount of goods transported, also the increase of fuel consumption then making environmental pollution.

**Table 3. Volume of goods transported (2016 – 2020)**

Unit: Thousand tons

	<b>Railway</b>	<b>Road</b>	<b>By river</b>	<b>By sea</b>	<b>Airway</b>	<b>Total</b>
2016	5.209	969.721	215.768	64.474	286	1.255.458
2017	5.611	1.074.451	232.814	70.019	318	1.383.213
2018	5.718	1.207.683	251.905	73.562	404	1.539.272
2019	5.205	1.319.853	268.026	77.088	446	1.670.619
2020	5.216	1.307.877	244.708	69.639	272	1.627.713

*Source: General Statistics Office of Vietnam*

According to statistics from the Institute of Transport Strategy and Development in the period 2016 - 2020, transportation activities consumed a large amount of energy, accounting for 30% of the total national energy demand, 60% of total fuel consumption. On average, each year transportation activities emit about 30 million tons of CO<sub>2</sub>. In 2020, it is estimated that CO<sub>2</sub> emissions in the transportation industry are 47,680 million tons; The forecast is 65,138 million tons in 2025 and 89,119 million tons in 2030.

To tackle this problem, according to the report of the Ministry of Transport on environmental protection in 2020, the Ministry has inspected and certified environmental protection 51,380 inland waterway vehicles; emissions testing for 1,736,188 gasoline engine cars and 1,749,387 diesel cars; testing and certifying compliance with emission standards for 859 types of motorcycles and mopeds; 782 types of cars; 184 types of automobile engines.

- ◆ Domestic solid waste from online shopping

***Reduce rubbish by decreasing consumption of printing and writing paper:***

According to the National Steering Committee on Clean Water - Ministry of Natural Resources and Environment, the paper production industry is one of the industries causing the most environmental pollution today, especially for water sources. Due to the strong development of digital technology and online transactions, especially e-commerce that has reduced the consumption of printed and written paper.

**Table 4. Consumption of printing and writing paper and the growth rate of it (2017 – 2021)**

<b>Year</b>	<b>Consumption (Thousand ton)</b>	<b>Growth rate (%)</b>
2017	775	-
2018	795	2.6%
2019	719	-9.6%
2020	685	-4.7%
2021	679	-0.9%

*Source: Vietnam Pulp and Paper Association*

***Increase the amount of paper and plastic packaging waste:***

On the other hand, besides the convenience of online services are cardboard boxes, plastic bags, bottles, plastic cups...

**Table 5. Consumption of packaging paper and the growth rate of it (2017 – 2021)**

<b>Year</b>	<b>Consumption (Thousand ton)</b>	<b>Growth rate (%)</b>
2017	3.179	-
2018	3.818	20,1%
2019	3.753	-1,7%
2020	4.340	15,6%
2021	4.545	4,7%

*Source: Vietnam Pulp and Paper Association*

According to statistics of the Vietnam Plastics Association, the amount of plastic waste in Vietnam, accounts for about 8% - 12% of the total amount of MSW, but only about 11% - 12% of the amount of plastic waste was treated and recycled. The rest is mainly buried, burned and discharged into the environment, also because the community's awareness is still limited, so the treatment of plastic waste has not been really good.

◆ Greenhouse gasses from online activities

Because of the increase in Internet access and the popularity of online shopping that is continuing to increase the energy demand of the IT industry, also increasing greenhouse gas emissions. According to a team of researchers from Lancaster University and Small World Consulting, the real global greenhouse gas emission rate of the IT industry may be around 2.1-3.9%. About Internet, there is an average of 400g of CO<sub>2</sub> which is emitted per person per year. Therefore, the need to supply renewable energy to the IT industry is very urgent.

Recognizing this problem, the Technology and Energy Forum 2021 mentioned solutions to increase the supply of renewable energy for the IT industry to move towards sustainable e-commerce and encourage companies to participate.

### **3.2. The factors affecting the sustainable development of e-commerce in Viet Nam**

#### **3.2.1. Economy**

Although the GDP growth rate in 2021 was 2.58%, the lowest level in the past 10 years, it is still a great success for our country in disease prevention along with maintaining production and business. In addition, the development of economic sectors contributes to promoting the development of e-commerce.

On the other hand, the complicated and prolonged of the Covid-19 pandemic has significantly affected people's income. According to the General Statistics Office, the estimated average income per person a month in 2021 was about 4.2 million VND, decreased by 73,000 VND compared to 2020. This has affected people's spending in online shopping.

#### **3.2.2. Legal and Policy**

Companies and consumers can both have realized changes in regulations and new policies in the direction of creating a more favorable macro environment for e-commerce.

##### ***Policies to promote the development of digital economy and e-commerce:***

No. 749/QĐ-TTg approving the National Digital Transformation Program to 2025, with orientation to 2030.

National Strategy on the Fourth Industrial Revolution to 2030 according to No. 2289/QĐ-TTg dated December 31, 2020.

In addition, international trade agreements have been along with the above policies to support digital and e-commerce development. Specifically, the EU-Vietnam Free Trade Agreement, the Regional Comprehensive Economic Partnership Agreement between ASEAN and its five partner countries, the Comprehensive and Progressive Agreement for Trans-Pacific Partnership, are commercial agreements includes commitments to facilitate the development of cross-border e-commerce.

##### ***Regulations on resolving violations in e-commerce:***

On August 26, 2020, the Government issued No. 98/2020/ND-CP stipulating penalties for administrative violations in e-commerce, production and trading of counterfeit and banned goods

and protection of consumers' interests. The lowest sanction is 1,000,000 VND and the highest is 40,000,000 VND for individuals, the sanction is twice as high for violating organizations.

#### ***Pilot mobile-money service:***

On March 9, 2021, the Prime Minister issued 316/QD-TTg approving the pilot implementation of using telecommunications accounts to pay for goods and services of small value (Mobile Money).

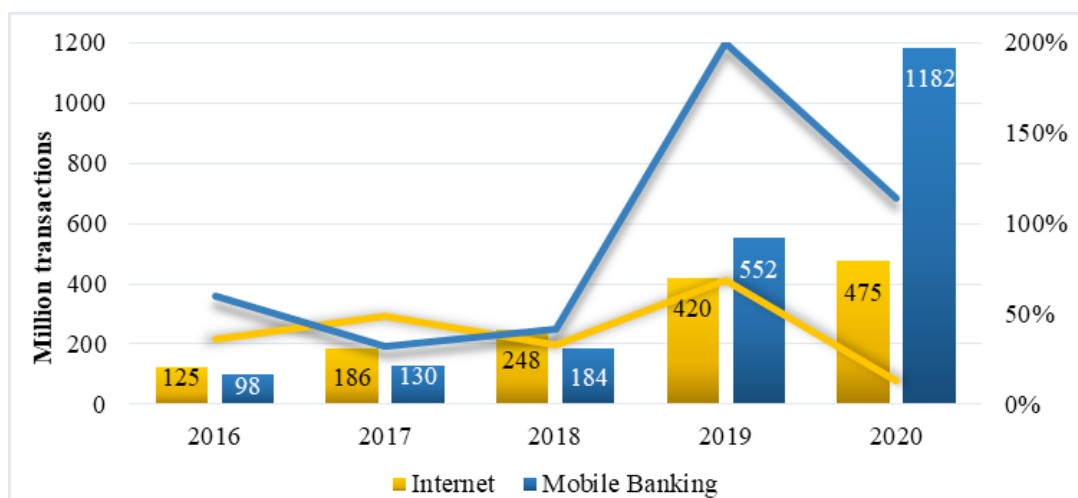
#### **3.2.3. Information technology**

According to the Global Competitiveness Report of the World Economic Forum, Vietnam's IT absorption index in 2019 has risen to 41st place. And Vietnam is one of the first countries to deploy a 5G network.

Besides the quality and high speed of the internet, low rates are one of the favorable factors. According to a survey by Cable.co.uk, by the end of December 2020, Vietnam is in the top 20 countries with the cheapest internet rates in the world, also ranks 6th in Asia, leading in Southeast Asia in terms of low internet rates.

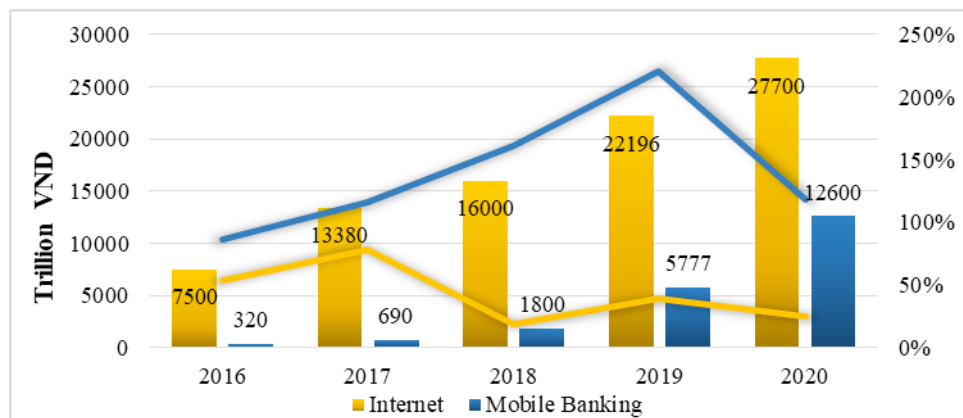
According to the Vietnam Information Technology and Communication Technology Application and Development Readiness Index Report 2020, indicators measuring the situation of information safety and security activities such as firewall solution deployment, installation anti-virus software, install spam filtering software, install unauthorized access warning software, deploy digital signature application, deploy SAN (storage area network) storage devices approx or absolute 100%.

#### **3.2.4. Online payment**



**Figure 10. Total amount of online payment transactions and growth rate of it (2016 – 2020)**

*Source: Vietnam State Bank*



**Figure 11. Total value of online payment transactions and growth rate of it (2016 – 2020)**

*Source: Vietnam State Bank*

Online payment has continuously grown strongly in terms of transaction volume and value, most remarkable in 2019. It is the result of the explosive development of payment intermediary firms and the impact of the Covid-19 epidemic changed the payment habits of consumers.

However, there is still a large percentage of consumers still use cash payment when making purchases. According to the survey results of the Department of E-commerce & Architects in 2021, 78% of consumers answered that they would choose the cash payment method after receiving goods purchased online. And 19% of consumers consider the complicated electronic payment method as an obstacle when shopping online. This is the biggest barrier for e-commerce to become more attractive to consumers.

### **3.2.5. Logistics in E-Commerce**

According to the Vietnam Logistics Report 2021 of the Ministry of Industry and Trade, logistics enterprises in Vietnam are providing more than 17 different services, mainly warehousing, transportation, customs declaration, forwarding and express delivery. About 50% - 60% of enterprises in the market are applying different types of IT. In particular, in 2021, the logistics market has experienced a strong increase in e-commerce services.

However, experts said that Vietnam's logistics industry has not yet developed corresponding to its potential. According to the Journal of Events (2022), this is due to many barriers to digital transformation. Most logistics enterprises are small and medium-sized, with limited financial capacity, so their ability to apply technology is limited, also human resources in the logistics field are lacking in number and weak in professional qualifications.

### **3.2.6. High quality human resources**

According to the report on e-commerce training in universities and colleges in 2010 by the Ministry of Industry and Trade, out of 125 educational institutions surveyed, 49 universities and 28 colleges taught e-commerce as a subject. These days, they have also established e-commerce to be a major. Moreover, the Plan for E-commerce Development in all periods mentions the mission of improving the quality of human resources.

Although there have been a lot of efforts in training e-commerce human resources, the reality of human resource quality has not been raised in a sustainable way. According to the survey results of VECOM, the proportion of companies with specialized employees in e-commerce has decreased significantly compared to previous years, from 30% in 2017 to 23% in 2020. This is because of the impact of Covid-19, also the financial pressures on companies, leading to downsizing employees.

### **3.3. General assessment of the sustainable development of E-commerce in Vietnam**

*Firstly*, on the economic aspect in the sustainable development of e-commerce. E-commerce has grown strongly not only in terms of revenue, but also positively contributing to the country's GDP. Especially the development of e-commerce is increasing rapidly. In addition, the development of e-commerce in the activities of enterprises and localities contributes to proving that the development is not only fast but also sustainable.

*Second*, about the social aspect in the sustainable development of e-commerce. In recent years, B2C e-commerce has gradually increased its share in total retail sales and services nationwide. One of the reasons is the number of consumers participating in e-commerce and the level of spending on online shopping has increased, contributing to creating job opportunities and increasing incomes for employees, not only highly specialized workers but also manual laborers in the countryside. Moreover, e-commerce makes people feel more convenient and assume that online shopping has become a habit in their lives. However, there are still some reasons why consumers are afraid of online consumption, such as security issues and online fraud.

*Third*, about the environmental aspect in the sustainable development of e-commerce. Although e-commerce is expected to reduce emissions from people's vehicles, the amount of waste from payment or administrative transactions. However, e-commerce created emissions from vehicles, paper, plastic waste. In addition, activities using electronic devices and the internet also emit a large amount of CO<sub>2</sub>. Faced with those problems, the Government and State agencies have constantly come up with solutions to limit the "carbon footprint" of e-commerce, towards sustainable development and have also achieved positive results, but not yet thoroughly.

*Fourth*, despite being affected by the Covid-19 pandemic, Vietnam's economy remains stable. The economic growth rate is quite impressive and the development of the agriculture-forestry-fishery, industry-construction, and service sectors contributes to the development of e-commerce. On the other hand, people's income levels decreased slightly, affecting the demand for online shopping.

*Fifth*, Vietnam's legal and policy system is increasingly diversified and developed, contributing to creating favorable conditions and an effective business environment for e-commerce. The policies revolve around the development of the digital background, handling e-commerce violations well, and paying attention to the development of the online payment field.

*Sixth*, Vietnam is evaluated as a country with advantages in some of areas of IT infrastructure, especially the internet and 5G networks, with its popularity and low cost, making benefits for people to participate in accessing the Internet and online shopping activities. Moreover, the development of IT infrastructure also ensures network safety and security, reduces online problems. However, IT infrastructure needs to continue to be cared for and implemented synchronously to further improve its position in the world ranking, promoting the development of e-commerce.

*Seventh*, logistics in e-commerce has had a remarkable development in recent years thanks to the effectiveness of IT applications. However, there are still many challenges that hinder the development of Vietnamese logistics enterprises, further affecting the supply chain, delivery in e-commerce.

*Finally*, recognizing the need for high-quality labor for the e-commerce industry, the Government coordinates with universities to strengthen formal professional training, providing abundant human resources for e-commerce enterprises. However, high-quality human resources in Vietnam are still limited in terms of quantity and quality.

#### **4. SUGGESTIONS TO DEVELOPING SUSTAINABLY E-COMMERCE IN VIETNAM**

From the analysis of the current situation of sustainable development of e-commerce in the previous chapter, below are the requirements set out to ensure the sustainable development of e-commerce in Vietnam in the coming period.

*Firstly*, promote the development of B2C e-commerce because this is the main development driving force of e-commerce. E-commerce needs to be developed equally among localities, with a large degree of spillover, contributing to socio-economic development in localities across the country. To do so, it is necessary to develop e-commerce in enterprises, and at the same time improve the satisfaction of consumers in online shopping.

- ◆ Improve the legal framework and infrastructure to facilitate enterprises to participate in e-commerce

- ◆ Raise awareness of digital transformation in lagging areas.

- ◆ Build a national e-commerce booth where reputable brands are concentrated with high localization content

- ◆ Encourage businesses to cooperate with business households to develop local industries

*Second*, build a transparent e-commerce environment and handle violations well. Businesses and individuals must follow market principles and not cheat in e-commerce.

- ◆ Perfect the legal system on handling violations of e-commerce.

- ◆ Build a database system between law enforcement forces.

*Third*, strongly develop infrastructure and services to support e-commerce development such as IT, online payment and logistics.

- ◆ Develop information technology infrastructure in e-commerce: Encourage businesses to apply electronic payment methods; Supporting businesses to apply IT to ensure the security of payment information; Businesses need to simplify the payment process, promote commercial advertising and give incentives to consumers.

- ◆ Develop online payment activities: Encourage businesses to apply electronic payment methods; Supporting businesses to apply IT to ensure the security of payment information; Businesses need to simplify the payment process, promote commercial advertising and give incentives to consumers.

◆ Improve logistics infrastructure for e-commerce: Build a Digital Map for transportation management; Encourage enterprises to participate in the process of innovating and optimization of transportation.

*Fourth*, it is necessary to develop high-quality human resources with modern, professional and skillful business operation skillset to keep up with the development requirements of domestic e-commerce in the context of international economic integration.

◆ On the side of universities and colleges: Equip solid knowledge about e-commerce, simulating actual e-commerce activities; Continuously innovate training programs associated with development trends; Survey jobs and labor market needs, to develop “realistic” human resources.

◆ On the business side: Enterprises need to connect extensively with training institutions to have appropriate recruitment strategies; Design software for training activities and practical needs; Enterprises need to regularly check the quality of personnel training.

*Fifth*, greening e-commerce activities by promoting green logistics development from packaging to shipping. At the same time, it is necessary to invest in a waste treatment system from e-commerce activities, along with bringing renewable energy into IT activities and simultaneously creating opportunities for businesses to be exposed to and learn with green technologies.

◆ Developing green logistics for E-commerce: Impose tax rates and administrative measures on the means of transport that cause major pollution; Continue to promote IT application to optimize transportation and reduce emissions; Promote the construction of green warehouses, production of goods and green-labeled packaging; Reuse products, packaging; remanufacturing and refurbishing machinery and equipment.

◆ Increase collection and treatment of waste from e-commerce activities: Strengthen propaganda and guide people to sort garbage, reuse and recycle; Encourage the participation of private entities in waste treatment; Increase investment in human resources, facilities, and environmentally friendly waste treatment techniques.

◆ Developing green energy for information technology: Encourage and create incentives for enterprises to use renewable energy; Increase investment in green IT infrastructure; Setting goals, detailed roadmap for green IT service model for e-commerce.

## 5. LIMITATIONS OF THE STUDY

In general, the topic has innovative and outstanding points compared to previous studies when it has presented the theoretical basis and the current situation of sustainable development of e-commerce in a comprehensive manner in all three aspects of economy, society and environment. In addition, although there have been many attempts to research the literature and consult on this topic, due to limited statistical capacity, this research paper still has many shortcomings and limitations. Specifically, because the development of e-commerce has only exploded in recent years, detailed statistics for the topic are still limited, the author has used representative data of some enterprises or localities to present development trends and practical issues. Especially for the criteria related to environmental sustainability, the secondary data source is not specific for the e-commerce sector, but the author has tried to show it with general data.



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# APPLICATION OF SIMULATION GAMES IN TRAINING ENTERPRISE RESOURCE PLANNING FOR ECONOMICS AND MANAGEMENT STUDENTS

MSc. Nguyen Quang Hung<sup>1</sup>

**Abstract:** *Enterprise resource planning (ERP) is the development solution of many companies today. This leads to a huge demand for human resources and ERP training requires modern methods. The positive effects of simulation games when introduced into teaching and learning have been demonstrated in many previous studies. However, the selection and application of business games in teaching and learning practice is still limited in the Vietnamese educational environment. Types of business management simulation games such as ERPSim (Hec Montreal), Management Game (Sony, Japan), Paper Game (ERPSim Lab) are still limited when applied in combination with teaching. This study builds a new simulation game suitable for teaching ERP subjects. The research content refers to the design of a business management simulation game called Business Process Management (BPM) and provides a method for implementing this simulation game into the classroom. By combining the methods of empirical research, survey and modeling of the contents, processes, the results of the research have been applied experimentally in classes in the fields of economics and management at the University of Economics and Law. Research results have created a business management simulation game and how to deploy it to promote the innovation of current and initial teaching methods when receiving positive reviews from students with more than 80% of students support the implementation of simulation games in learning related subjects.*

**Keywords:** *ERP, simulation game, management game*

## 1. INTRODUCTION

In many countries around the world, simulation games are considered a serious intellectual activity, a playground that facilitates the development of learners' abilities and expands their thinking and knowledge. According to Moore (2009) and Silva (2012), with the use of simulation activities aimed at active learning skills for learners, learners "become a different individual, by playing their own role. , to better understand other individuals, about their actions and motivations, and to explore their emotions" and through simulation, learners experience knowledge, material learned in a more real-life situation.

Many studies, seminars, and guidelines of educational agencies, have been proposed to promote the innovation of teaching methods to improve the ability to acquire and apply knowledge. The design and construction of a business management simulation game Business Process Management

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(BPM) aims to promote the activeness and initiative of students in learning theoretical knowledge about business processes of enterprises and experience. based on practice, learning from business cases, and bridging the gap between theory and practice.

In fact, when businesses carry out business activities that are activities that integrate processes as well as handle arising situations, it will be difficult for students to learn only theory. Through the simulation game, in addition to the mentioned impact, students will experience how to manage a business (with a risk-free environment) and develop skills in decision making, teamwork, financial management, cash flow, etc. to support actual work later.

At universities and colleges across the country in general and the University of Economics and Law in particular, many activities aimed at innovating teaching methods have been implemented in different forms. Each activity and method brings a positive and desirable effect, and one of the methods that bring high efficiency but has not been widely deployed is the application of simulation games in business subjects. The implementation of business simulation games in the subject is an educational method in line with the trend of modern teaching innovation.

## **2. LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES**

With the benefits of simulation games proven by research (A.J.Faria, 1998) business simulation has become an increasingly popular teaching method in business courses (Faria. , 1998), business strategy (Stephen, Parente, & Brown, 2002), business ethics (Wolfe & Fritzsche, 1998), and courses on cultural differences (Chatman & Barsade, 1995). In contrast to traditional teaching methods, business simulation bridges the gap between the classroom and the real world of business decision making through experiences in which students design, implement, operate implementation and control of business strategy. In the simulations, students think in terms of strategies, solve complex problems, and integrate knowledge across business functions. In real-life scenarios simulated in games, students can better understand the interactive effects of the environment, competitors and employees (Romme, 2003).

In Vietnam, realizing the benefits brought to learners as well as innovative thinking to improve teaching and learning according to the policy of the State, the method of incorporating simulation games into the program studying at university level, especially in the field of economics, some universities in our country are also gradually researching and using it.

French University - Vietnam National University Ho Chi Minh City (PUF-HCM) is an example of the application of business simulation games in the Bachelor of Business Administration program. This subject is called "Business Game", divided equally for each first semester of 3 school years with different content:

- Business game 1: about business services.
- Business game 2: about producing and selling products.
- Business game 3: combining both service business and production - sale of products.

Learners will play the role of a member of an enterprise, an enterprise that is responsible for a group of trainees, making decisions about business activities.

At the University of Economics and Law, in some subjects, students also experienced simulation games such as Management Game (Sony company, Japan), ERPSim (HEC University, Montreal). The experiment to combine the method of applying simulation games into teaching learning also initially received positive feedback from students.

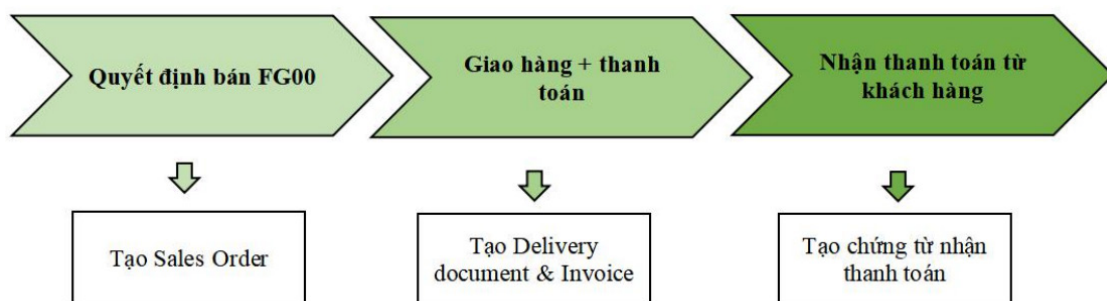
With the advantage of implementing ERPSim, Management Game in combination with teaching about business processes, besides the positive effects received from students, the limitations when applying the actual implementation are also reflected. On that basis, the research team has improved, perfected and designed a more optimized BPM business simulation game.

### 3. METHODOLOGY AND PROPOSED MODEL

The study used the following methods:

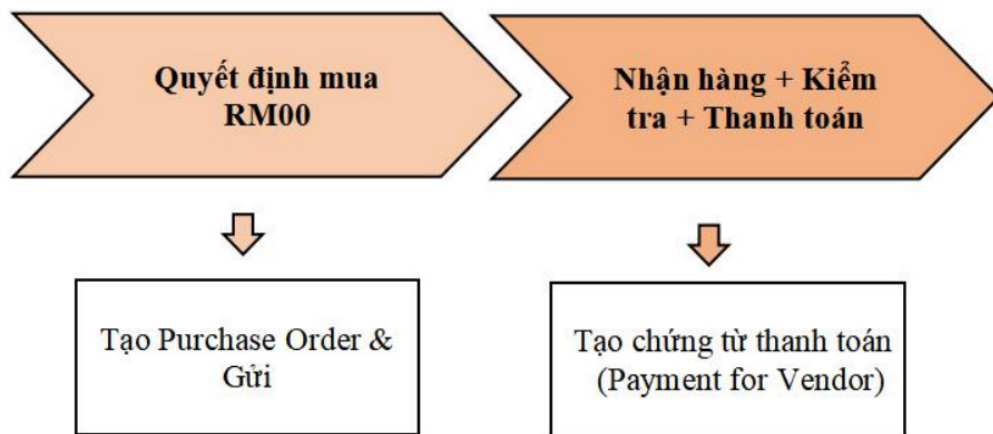
- Theoretical synthesis method: study documents on simulation games in general and business simulation in particular; then synthesize theoretical papers, and systematize game documents.
- Scientific experimental method: putting games into teaching, implementing in classrooms to get experience and adjust.
- Data collection method: the data used in the research is directly surveyed by students who have experienced the business simulation game.
- Application analysis and design methods: building new games, overcoming problems of existing games.

Overcome limitations of existing simulation games and compatible with training content. BPM is designed to simulate the basic processes: sales (fulfillment process), purchasing (material management), ... with each activity, transaction documents will be generated simulated in the way that the business implemented but at a simple level that students can easily access.



**Figure 1. Sales process diagram of companies in BPM**

BPM is deployed in the form of groups, each group manages a company and performs business activities as well as internal and financial resource management. Each game round corresponds to 1T time, companies will go through activities, fixed decisions (as shown below) and depend on current company resources to make a final decision.



**Figure 2. Simplified purchasing process diagram of companies in BPM**

With the above sequence, members must divide the work (corresponding to functional departments in the company) and control finances effectively so that the activities go smoothly, ensuring solvency of the company.



**Figure 3. Sequence of operations in time T**

#### 4. RESEARCH RESULTS

After being deployed to the class, to check the effectiveness, a survey was conducted to have a general assessment of the students' perceptions when experiencing the game. In terms of details of the learned processes (Sales and Distribution, Management Material, Financial,...), through the self-activation of self-activation, implementation of business processes, creation of data and documents directly. By documenting and censoring, students can clearly see the details and interrelationships of the processes.

By creating vouchers and using them in the process of buying and selling, dealing with partners, students better understand the content, meaning of the vouchers and when to use which documents. Through the knowledge of business processes integrated through the game BPM helps students better understand the theoretical knowledge they have learned. With the question “if choosing to use games as part of the curriculum so that students can easily absorb and avoid learning in a theoretic way, what is your opinion?” More than 80% of students who have experienced the game show their agreement and interest in using BPM in teaching and learning.

Although the benefits brought to students, learners, lecturers and employers when applying the combined teaching method using business simulation games, the direct audience responded and feel useful, improve. With the same group of subjects experiencing the above business simulation game, the question arises as to how many students will support the use of games to support learning, avoiding learning theoretically.

## 5. DISCUSSION AND CONCLUSION

Through the application of business simulation games to subjects, it will help bring greater benefits to learners in general and students in particular, specifically:

- Understand theoretical concepts through direct interaction, simulation.
- Experience the role as an employee in the company, performing company activities: buying, selling, manufacturing, financial accounting,...
- Understand business processes through practical implementation, easy to understand and remember.
- Increase students' initiative and interaction with the learning content, actively absorbing knowledge and applying the provided knowledge to solve arising problems.
- Increase the interest and attraction of the subject's content, encouraging learners to explore and do more research.
- Shorten the gap between theory and practice, increasing the connection between subjects in the curriculum.

For trainers and trainers there are also direct benefits:

- There are more tools to improve teaching activities, attract students' attention, improve interaction between lecturers and students.
- Avoid teaching theories in an academic way, easier to help students learn the knowledge.

In the future, the game will expand to many different audiences to evaluate the next development of this simulation game. With the process of building - implementing - surveying - continuous improvement, business management simulation games can be put into teaching in related subjects and promote training effectiveness.

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# REGULATIONS ON CIRCULAR ECONOMY IN VIETNAM'S LAW ON ENVIRONMENTAL PROTECTION 2020

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**Abstract:** *Circular economy concepts, practices, and regulations are gaining popularity as crucial tools for achieving sustainable development. Circular economy model is regarded as a solution, an alternative approach to the linear model to help restore development; to overcome the situation of increasing resource use, supply disruption and to eliminate negative impacts on the environment. In Vietnam, the new Law on Environmental Protection took effect in January 2022 with a wide-ranging reform of the way projects are evaluated and approved by the government. This study provides an in-depth analysis of regulations on circular economy in Vietnam's law on environmental protection 2020. It initially discusses the concept of circular economy and regulations in different countries then it analyzes the current legal framework on circular economy regulated in law on environmental protection 2020. Finally, the research provides a discussion on Vietnam's pathway toward sustainable development and legal changes that affects business communities.*

**Keywords:** *circular economy, Law on environment protection 2020, extended producer's responsibility, Vietnam.*

## 1. INTRODUCTION

The environmental degradation is a global concern that has not been seen since the last global mass-extinction event, with research suggesting that if on-going human activities as natural resource exploitation, excessive use of land and biodiversity loss would result in declining regenerative capacity of the earth, posing an existential danger to human's existence (Rockström et al., 2009). During the last century, global consumption rates have climbed eight-fold, and they are anticipated to quadruple by 2050 (Prendeville et al, 2018). This increasingly demand contributes to resources depletion and is tied to our linear economic model which follows make – use – dispose system (Savini, 2019).

The Circular Economy (CE) has attracted increasing attention of academia, businesses and government and non-government organizations in the recent years (Lazarevic & Valve, 2017). The CE concept is regarded as a promising idea in addressing Anthropocene impacts (Murray et al, 2017). By adopting a regenerate economic model which resources are circulated, the CE is a systemic approach to solve the problems of resource shortage, disruption of biochemical flow

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and climate change while promoting growth and development (Batista et al., 2018). Friant et al., (2020) divided the evolution of circular economy concept into three periods including preamble period, excitement period and validity challenge period. The preamble stage or Circular economy 1.0 built up the literature on understanding of planetary limits and the ecological impacts of human activities with different perspectives including Gandhian economics (Kumarappa, 1945), ecological economics (Daly, 1977) and political ecology (Gorz, 1980). Circular economy 2.0 witnessed a wide range of novel ideas which considered trash as a useful input for other processes. Pearce and Turner (1990) first proposed the concept of a circular economy model. It is also the time that different ideas, concepts, and business models developed covering “industrial ecology” (Frosch & Gallopoulos, 1989), “product-service system” (Goedkoop et al., 1999) and “extended producer responsibility” (Lindhqvist, 2000). Circular economy 3.0 (1990 - present) also represents social – economic approach in dealing with waste by introducing the concept of “the natural step” (Robèrt, 2002), “the performance economy” (Stahel, 2010), “cradle to cradle” (McDonough & Braungart, 2002), and “natural capitalism” (Hawken et al., 2013).

Building Circular economy has been identified as one of the national development orientations for the 2021-2030 period. The Resolution of the 13th National Congress of Deputies has identified circular economy development as one of the twelve national development orientations for the period 2021 - 2030: *“Actively and effectively adapting to climate change, prevention, control and mitigation of natural disasters, epidemics, management, exploitation, rational, economical, efficient and sustainable use of natural resources; taking the protection of the living environment and people’s health as the top goals; resolutely eliminate projects that cause environmental pollution, ensure the quality of the living environment, and protect biodiversity and ecosystems; building a green, circular, and environmentally friendly economy”*. (Resolution of the 13th National Party Congress, 2021)

In Vietnam, the new Law on Environmental Protection 2020 took effect in January 2022. The law emphasizes ministries’ and localities’ responsibility to incorporate circular economy into planning strategies, development plans, waste management, and trash recycling. The new law also introduces the concept of circular economy by promoting extended producer responsibility (EPR) policy, emphasizing producers’ and importers’ responsibility to recycle products and packaging. Vietnam is working to align its legislation with international principles and practices. Rather than simply offering overall regulations and principles, the New Law included significantly more information for implementation. New regulatory criteria and procedures have also been implemented, which firms must get acquainted with, ranging from waste management to environmental permits.

This study aims to pave the way to in-depth analysis of regulations on circular economy in Vietnam’s law on environmental protection 2020. It initially discusses the concept of circular economy then it analyzes the current legal framework on circular economy regulated in 2020 LEP. Finally, the research provides a discussion on Vietnam’s pathway toward sustainable development and legal changes that affects business communities.

## 2. AN OVERVIEW OF CIRCULAR ECONOMY AND REGULATIONS IN DIFFERENT COUNTRIES

There are more than 100 different definitions of the circular economy that can be tracked in literature (Kirchherr et al., 2017). This phenomenon shows that the concept is still under development. The circular economy is a collection of conceptual solutions to our unsustainable linear system, which has had an impact on the socioeconomic landscape since the industrial revolution (Clube & Tennant, 2020; Prendeville et al., 2018). Su et al., (2013) indicate that the focus of the circular economy is being expanded beyond the issues related to the management of material flows in the production system, it also includes other aspects such as saving and using energy efficiency, land management and water conservation. Looking from the production perspective, Ghisellini et al., (2016) define circular economy as the radical reshaping of all processes across the life cycle of products conducted by innovative actors has the potential to not only achieve material or energy recovery but also to improve the entire living and economic model. A widely used concept was promoted by the Ellen MacArthur Foundation (2012), circular economy is a system that is regenerative and restorative through proactive planning and design. It replaces the concept of “end of life” of materials with the concept of recovery, shifting towards using renewable energy, reducing harmful chemicals and towards reducing waste through the design of materials, products, systems and business models within its scope.

Theories underlying the conceptualization of circular economy have existed since the 1960s, with origins in environmental and ecological economics, industrial ecology, and corporate sustainability literature, among others, including antecedents such as limits to development, small is beautiful, and ecological design (Bauwens, 2021; Gregson et al., 2015; Lazarevic & Valve, 2017). The circular economy can be operationalized according to the circular economy value retention hierarchy, which represents the various ways of dealing with the waste products and materials (Reike et al., 2018). The concept of circular economy is covered in 9R principle including R1 reduce, R2 reuse, R3 repair, R4 refurbish, R5 remanufacture, R6 re-purpose, R7 recycle materials, R8 recovery energy and R9 re-mine (Reike et al., 2018).

Environmental pollution is one of the urgent problems that nations need to solve in their development. To solve this problem, developing and developed countries has sought a development model that harmonizes economic interests and environmental values. Therefore, different countries have issued a series of environment related legal documents over the years. China enacted the Law on circular economy promotion in 2008 and it took effect from January 2009. The law was passed to achieve the goal of sustainable development by raising the rate of resource use and enhancing resource recovery in production and consumption. Accordingly, any new industrial policy issued by the Government must meet the criteria of promoting a circular economy. Industries must implement management systems that reduce resource use and waste, and improve resource recovery and recycling rate. The Law also provides regulations on the principle of circular economy development, according to which the development of the circular economy must comply with the principle of prioritizing the preconditions that are technically feasible and economically reasonable. economy and resource saving (Ogunmakinde, 2019; Su et al., 2013).

In developing countries, a number of legal regulations related to waste management are enacted as a key component of eco-friendly solutions. Indonesia enacted the Solid Waste Management

Law in 2018, with the goal of improving people's health, environmental quality and turning waste into a resource. The law clearly defines the legal aspects and roles of stakeholders in solid waste management in Indonesia. Meanwhile, the Philippines has promulgated the National Solid Waste Management Legal Regulations since 1999. Several other emerging countries have also issued a number of regulations related to eco-economy and waste management, such as such as the Law on Waste Recycling (2007) and the Law on Waste Control (2008) in Korea, 10-year program on sustainable production and consumption in Indonesia, Roadmap Plastic waste management in Thailand from 2018-2030.

### **3. REGULATIONS ON CIRCULAR ECONOMY IN VIETNAM'S LAW ON ENVIRONMENTAL PROTECTION 2020**

#### **3.1. General regulations on circular economy**

As governments throughout the world begin to address the issue of global climate change and strive to mitigate the impact of human activities on our environment, environmental law and regulation are fast emerging. In 2019, the National Assembly of Vietnam adopted the new Law on Environmental Protection (2020 LOEP). The New Law marks the most significant update of Vietnam's environmental law framework since the first environmental protection law was passed in 1993. It went into effect on January 2022 and replace Law on Environmental Protection in 2014. The 2020 LOEP repealed and changed portions of four previous laws, as well as nullified eight governmental decrees in their entirety. It is the third generation of environmental protection legislation passed in Vietnam in the previous 15 years, with the goal of addressing growing internal environmental issues while also contributing to global environmental protection efforts.

In Clause 11 Article 5 of the Law on Environmental Protection in 2020, the State's policy on environmental protection affirms that incorporate and promote circular economy and green economy in formulation and implementation of socio-economic development strategies, planning, plans, programs and projects. Additionally, Article 142 of the 2020 LOEP regulates that there are separate regulations on circular economy. Accordingly, the concept of circular economy in Vietnam is defined as "An economic model which encompasses the design, production, consumption and services activities aimed at reducing raw materials, extending product life, reducing waste generation and minimizing adverse impacts on the environment". In addition to the concept of a knowledge-based circular economy, the Law gives responsibilities to Ministries, ministerial agencies and provincial People's Committees shall incorporate circular economy immediately at the stage of formulating a development strategy, planning, plan, program or project; managing, reusing and recycling waste. Every business shall establish a management system and take measures to reduce extraction of natural resources, reduce waste and increase waste recycling and reuse from setting up a project and designing a product or goods to production and distribution. In particular, the Law assigns the Government shall elaborate on criteria, roadmap and mechanisms for encouraging the implementation of circular economy in conformity with the national socio-economic conditions.

Furthermore, comparing with the policy measures to implement the theoretical economy of countries around the world shows that thinking about the transition to the market economy is also expressed in many different tools and policies. Comparing policies in strategic orientations and legal regulations on promoting the application of the market economy of Vietnam with countries

in the world that are typical in transitioning to a centralized economy such as China, the European Union (including typical member countries such as France, the Netherlands, Germany, Norway) reveals that Vietnam has built a fairly adequate legal and policy foundation to promote the implementation of the local economy by sectors and fields, different sectors of the economy such as waste segregation at source; green public procurement; extended manufacturer liability; promote recycling markets; preferential and supportive measures; environmental industry development.

### **3.2. Criteria, roadmap and mechanisms for encouraging development of circular economy**

#### *General criteria for circular economy*

The Decree No. 08/2022/ND-CP dated January 01, 2022 guiding the implementation of the Law also provides more detailed regulations on criteria, roadmap and incentive mechanism for the implementation of the eco-economy in Vietnam. Accordingly, identifying 3 pillars representing 3 groups of common criteria for the circular economy, including:

Group 1: Reduce the exploitation and use of non-renewable resources and water resources; increase efficiency in the use of resources, raw materials and materials; save energy;

Group 2: Extend useful life of materials, equipment, products, goods, parts;

Group 3: Reduce waste generated and minimize adverse impacts on the environment including reducing solid waste, wastewater and emissions; reducing the use of toxic chemicals; recycling waste, recovering energy; reducing disposable products; develop green purchasing habits.

In accordance with the groups of priority measures to implement circular economy, every business owner shall take one or more measures in the following order of priority to meet the circular economy criteria in clause 2 Article 138 of this Decree:

(i) Restrict the use of non-eco-friendly products; make the best use of equipment and products; increase efficiency in product manufacture or efficiently use natural resources, raw materials and materials;

(ii) Extend the life cycle of products and their parts, including: reuse (reuse by another consumer); repair (repair or maintenance of defective product to prolong their useful life); refurbish (restore an old product and bring it up to date); remanufacture (use parts of discarded product in a new product with the same function); repurpose (use discarded product or its parts in a new product with a different function);

(iii) Reduce waste generated, including recycling waste (treat and process waste to convert it into useful raw materials, fuel and materials); incineration of waste with energy recovery.

In addition, regulations applicable to every owner of an investment project, business, dedicated area for production, business operation and service provision or industrial cluster shall rely on the action plans specified in point a clause 3, clause 4 and clause 5 Article 139 of this Decree in order to take one or more measures below to meet the circular economy criteria: (i) Design an optimal master plan which establishes a connection between investment projects and businesses to improve efficiency in use and reduce the consumption of soil, water, minerals and energy; increase the recycling rate and reduce the total amount of waste generated; other measures specified in

clause 2 of this Article; (ii) Develop and use clean and renewable energy as prescribed by law; (iii) Collect and store rainwater for reuse; collect, treat and reuse wastewater; (iv) Carry out industrial symbiosis activities in accordance with regulations of law on management of industrial parks and economic zones.

*Roadmap and responsibility for implementing circular economy*

Regarding the roadmap and responsibilities for implementing the circular economy is stipulated in Clause 139 of Decree No.08/2022/ND-CP dated January 01, 2022 on elaboration of several Articles of the Law on Environmental Protection as follows: Ministry of natural resources and environment is responsible for:

(i) Preside over and cooperate with Ministries, ministerial agencies and provincial People's Committee in formulating and submitting to the Prime Minister a national action plan on circular economy as prescribed in clause 5 of this Article before December 31, 2023;

(ii) Build and operate a platform for connecting information and sharing data on application of the circular economy model;

(iii) Establish and introduce a methodological framework for application and assessment of implementation of circular economy;

(iv) Fulfill the responsibilities specified in clause 2 of this Article in the industries and fields under its management.

Ministries and ministerial agencies shall rely on their assigned functions, tasks and fields under the state management in order to: (i) Formulate and approve an action plan for implementation of the circular economy applied to the industries, fields and products in conformity with the national action plan mentioned in clause 5 of this Article; (ii) Organize dissemination of laws and provision of education and training in circular economy; (iii) Incorporate specific criteria for implementation of circular economy in the process of formulating development strategies, planning, plans, programs and projects; management, reuse and recycling of waste; (iv) Manage and update information and data on implementation of circular economy and integrate them with the MONRE's information system; (v) Organize pilot application of the circular economy to the energy, fuel and waste industries and fields according to the action plans specified in clauses 4 and 5 of this Article; (vi) Fulfill other responsibilities related to circular economy according to regulations of this Decree.

Provincial People's Committees shall: (i) Formulate and seek opinions of Ministries and ministerial agencies concerned and approve a provincial action plan for implementation in conformity with the national action plan mentioned in clause 4 of this Article; (ii) Fulfill the responsibilities specified in points b, c, d and e clause 2 of this Article within their provinces; (iii) Organize pilot application of the circular economy model to the energy, fuel and waste industries and fields according to the action plans specified in point a of this clause, clauses 4 and 5 of this Article.

The content of the national action plan for the implementation of the circular economy includes the following main contents:

(i) Overall analysis of current exploitation and use of natural resources; production and consumption; waste generation and forecasting of waste generated; domestic and international contexts for implementation of circular economy;

(ii) Viewpoints, overall objectives, specific objectives and expenditures on implementation of circular economy during the 10-year national action plan period;

(iii) Tasks and roadmap for implementation of circular economy applied to industries and fields, especially prioritized industries and fields to which the circular economy is applied in each period; list of specific industries and fields for which guidelines for application of circular economy have to be provided;

(iv) Determining types of investment projects and businesses required to produce a design in order to meet the circular economy criteria; applying apply cleaner production, production of eco-friendly products, production using recycled materials, management of life cycle of chemicals and waste;

(v) Solutions for implementing circular economy, including disseminating, providing education and training in knowledge and laws; developing science and technology; developing human resources; developing technical infrastructure; connecting and sharing information and data; raising capital; international cooperation and other solutions;

(vi) Organizing the implementation, including delegating responsibilities to the presiding authority and cooperating authorities; supervision and reporting regulations; allocation of resources.

In particular, in order to promote the participation of the whole society in the implementation of the concept of economy, Every owner of an investment project, business, dedicated area for production, business operation and service provision or industrial cluster shall implement circular economy according to the action plans specified in point a clause 3, clause 4 and clause 5 of this Article. Owners of investment projects, businesses, investors in construction and commercial operation of infrastructure of dedicated areas for production, business operation and service provision and industrial clusters are encouraged to apply circular economy earlier than the roadmap specified in the action plans mentioned in point a clause 3, clause 4 and clause 5 of this Article. Owners of investment projects, businesses, investors in construction and commercial operation of infrastructure of dedicated areas for production, business operation and service provision and industrial clusters operating before the effective date of this Decree are encouraged to continue to apply one or more measures mentioned in clauses 2, 4 and 4 Article 138 of this Decree (if any).

#### *Mechanisms for encouraging implementation of circular economy*

The Law also provide legal framework for promoting circular economy application. The proposed mechanisms to encourage the implementation of the market economy. The State prioritizes the development of circular economy for the following activities: conducting scientific research, developing applications, transferring technologies, producing equipment and training personnel to implement circular economy; providing a platform for connecting information and sharing data on circular economy. Any organization or individual that carries out an activity or has a project applying the circular economy model and is entitled to the incentives or assistance in environmental protection and any project issued with green credit as prescribed by law are entitled

to the incentives and assistance prescribed in Articles 131, 132, 133, 134, 135 and 137 of this Decree and other relevant regulations of law and encouraging mechanisms related to green credit and green bonds prescribed in Articles 154, 155, 156 and 157 of this Decree.

The State encourages the following activities for development of circular economy: studying and developing technologies and technical solutions, providing circular economy assessment, design and consulting services as prescribed by law; developing models for connecting and sharing the circular use of products and waste; establishing recycling cooperative groups, cooperatives, cooperative unions and alliances, models for regional connection and rural and urban area connection and other models as prescribed by law so as to carry out investment, manufacturing and business activities, thereby meeting the circular economy criteria; adopting industrial symbiosis measures in accordance with regulations of law on management of industrial parks and economic zones; developing discarded product reusing and waste recycling market; mobilizing social resources for implementation of circular economy as prescribed by law; developing international cooperation, exchanging experience, knowledge and technologies in relation to circular economy as prescribed by law.

## **4. DISCUSSION**

### **4.1. A pathway toward a sustainable development**

Circular economy is a completely new term included in the Law to embrace the current development trend in the context of finite natural resources, fuel, and materials. New regulations are introduced to pave way for sustainable development. The 2020 LOEP has integrated administrative procedures on environmental protection located in other laws (licensing for discharge of waste into water sources, importing scrap as raw production materials, discharging emissions, and licensing hazardous wastes. ...) into the “environmental license”, which results in the clarity of procedures. Environmental permits are also only applied and scrutinized for projects that discharge emissions with a high risk of adverse impacts on the environment, and other projects that do not require an environmental permit. It also paves way for new thinking of environmental management which do not sacrifice the environment for economic growth. Additionally, the 2020 LOEP defines that environmental protection is not only the prevention, control and treatment of waste, but also requires the development of production and business in harmony with the laws of nature. The law regulates that society have the responsibility to protect the environment from the government, businesses to citizens. Moreover, a lot of content on “environmental health” are added, in which environmental protection regulations are to protect environmental components such as soil, water, air, natural heritage.

The Law has approached a transparent and scientific environmental management method for investment projects based on environmental criteria; screening and discouraging projects that do not follow the laws of nature, occupy large areas of forests and rice land, and affect natural heritage sites and conservation areas; apply appropriate environmental management tools in each stage from strategy formulation, planning to investment project implementation. Accordingly, investment projects are classified into 04 groups: high risk of adverse impacts on the environment, high risk, little risk or no risk of adverse impacts on the environment. Corresponding to each specific project



object, the state management agency in charge of environment will apply appropriate management mechanisms.

The Law on Environmental Protection 2020 stipulates that the collection of waste fees is based on volume or volume instead of the current average calculation per household or per capita. This fee collection mechanism will contribute to promoting people to separate and reduce waste generated at the source because if not doing this, the waste treatment cost will be high, through the regulation of domestic waste. must be classified into 03 types: (i) solid waste capable of being reused and recycled; (ii) food waste; (iii) other domestic solid waste. The Ministry of Natural Resources and Environment has carefully studied the models and experiences of countries around the world that are currently successful in collecting waste treatment fees through the sale of packaging and garbage equipment such as Japan and Korea. and other developed countries. To ensure the feasibility of this mechanism, the Law has made a number of provisions such as: (i) According to the socio-economic conditions of the locality, the provincial People's Committee decides the specific classification of daily-life solid waste before December 31, 2024; (ii) At garbage collection points, if the classification is not in accordance with regulations, the collection and transportation unit has the right to refuse to collect, transport and notify the competent authority for inspection; (iii) Vietnam Fatherland Front, socio-political organizations at all levels are responsible for mobilizing communities, households and individuals to separate domestic solid waste at source. The residential community and socio-political organizations are responsible for supervising the classification of daily-life solid waste of households and individuals; (iv) Commune-level People's Committees are responsible for inspecting compliance, handling or transferring to competent authorities to handle violations of the law on daily-life solid waste management as prescribed.

However, the current legal documents and the 2020 LOEP have not mentioned regulations on the treatment of a particular type of waste, which is e-waste. The treatment of this type of waste requires specific technologies, so there should be separate regulations for the management and reuse of this type of waste, especially in the context of promoting the improvement of the economy. circular economy in Vietnam today. In addition, whether the circular economy model can be realized or not, the main factor depends on businesses. Currently, in addition to the policy provisions and policy content in legal documents, the procedural provisions to support environmental business enterprises, as well as investors in the field of environment, waste treatment is still unclear and unattractive to investors. There are guidelines and policies, however, the practical implementation is not high. There are not many businesses that have enough incentive to invest and develop technology in the field of environment.

#### **4.2. Extended producer responsibility**

Vietnam has implemented a new extended producer responsibility (EPR) framework that requires manufacturers and importers to manage waste linked with their products throughout their entire life cycle. Since the 1990s, many countries have used this mechanism to recover abandoned products and packages for recycling and most efficient treatment, meeting the dual goals of environmental conservation and economic development. As a result, EPR is a system by which the producers' responsibility for their products is extended to the post-use stage, with the goal of collecting them at the end of their life cycle, which can be classified before treatment, primarily

recycling. In Vietnam, EPR was first mentioned in the Environmental Protection Laws of 2005 and 2014. However, their guiding documents only went so far as to specify the abandoned products and packaging that needed to be recovered, recycled, and processed, as well as to establish the producers' duty to set up collecting facilities and the customers' responsibilities. They failed to offer mandated recycling collection rates and recycling criteria, as well as a method to keep the system running efficiently and smoothly. The above-mentioned gaps have been closed by the 2020 Law on Environmental Protection and its guiding decree. "Organizations and people producing and/or importing products and packages with recycling value shall undertake recycling at the obligatory rates and according to established specifications," according to Article 54 of the Law. Furthermore, according to Article 55, "organizations and people producing and/or importing packages containing harmful compounds that are barely recyclable or obstruct collection and treatment shall pay financial contributions to assist daily-life solid waste treatment efforts."

Manufacturers and importers of certain recyclable goods for sale in Vietnam must either (1) recycle a minimum percentage of the products themselves or contract with a third party to do so, or (2) make monetary payments to the Vietnam Environmental Protection Fund. The 2022 LOEP specifies the minimum recycling percentage for each type of item as well as the formula for calculating the monetary contribution.

Businesses subject to EPR standards should plan to meet recycling standards in the coming years. Business strategies should contain plans for recycling commodities, as well as allocated financing for such programs. Although the Vietnamese business community largely accepts the concept of EPR, there are questions about the marketability of those standards. Transparency in the handling of EPR payments will be critical to ensuring that monies for recycling efforts are used efficiently.

## **5. SUGGESTIONS AND CONCLUSION**

To promote the development of the circular economy in Vietnam, it is necessary to carry out synchronous solutions from raising awareness to perfecting institutions and implementing organizations. Accordingly, in 2021 - 2030 period, it is necessary to focus on implementing solutions to promote the circular economy in Vietnam in order to take advantage of cooperation opportunities in accessing and receiving technology transfer. In particular, the State needs to well perform the tectonic role so that businesses and people can play a central role in building and developing a circular economy in Vietnam. Moreover, it is necessary to continue to improve the legal corridor to serve the development of the circular economy. In particular, it is important to specify the responsibilities of manufacturers and distributors in the recovery, classification, recycling or payment of treatment costs for discarded products based on the number of products sold on the market. school; adding provisions on project management by life cycle; additional environmental standards. Along with that, new taxation on waste and promoting legal framework for renewable energy; biofuels, waste recycling should be considered. The state needs enact policies for pioneering businesses to implement this model on the basis that they see practical benefits.

Circular economy is an inevitable solution to improve growth quality, improve national competitiveness, and ensure sustainable production and consumption. It also contribute to solve

social problems, create jobs, eradicate hunger and reduce poverty. Additionally, it is the nucleus to implement the policy of effectively; allocate, manage and use resources as well as protect the environment for sustainable development in the context of natural disasters, epidemics and climate change. In Vietnam, in order to implement the above policy proposals in the short term, it is necessary to focus on introducing the provisions of the 2020 LOEP, especially it is necessary to develop a national action plan, a set of standards at the national level, criteria for sectors, fields and for each type of investment project, production, business, and service establishments. New regulations should encourage the implementation of the circular economy. In addition, it is necessary to consider amending and supplementing the legal system to promote the implementation of the circular economy such as environmental protection tax, value-added tax, consumer protection, and the law on public investment.

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# CORPORATE SOCIAL RESPONSIBILITY IN VIETNAM

Hoang Doan Phuong Thao<sup>1</sup>

**Abstract:** This paper aims to contribute to research into CSR practices in Vietnam, which remains limited despite its increased relevance to today's business environment. In order to fulfill this objective, the author first provides an overview of CSR in terms of its development as a concept, its categorization and explains why it is important for businesses. Next, by identifying the challenges faced by Vietnamese enterprises such as limited financial resources, personnel, business size and expertise, the paper makes some suggestions of what can be done to improve CSR in Vietnam. The steps can be taken by both enterprises and the government.

**Keywords:** corporate social responsibility, CSR, developing countries, sustainability, Vietnam

## 1. CORPORATE SOCIAL RESPONSIBILITY: DEFINITIONS, CLASSIFICATIONS AND PURPOSES

Corporate Social Responsibility (CSR) has become a topic of growing interest among both academics and practitioners in recent years. According to the Governance & Accountability Institute, 92% of S&P 500 firms published sustainability reports in 2020, a dramatic increase compared to the 2011's figure of 20%.<sup>2</sup> Increased attention to CSR has been fuelled by the globalization of markets and greater complexity of companies' relations with their stakeholders, which requires increased transparency and corporate citizenship (Jamali & Mirshak, 2006). Attempts to create competitive advantages have encouraged businesses, especially multinational corporations, to engage in activities that have traditionally been regarded as the sole responsibility of the government: improving the living standards of people in the communities (Scherer & Palazzo, 2011).

While the CSR concept is believed to be officially introduced in a seminal work by Bowen (1953), the first idea of CSR perhaps can be traced back to Barnard (1938), who claimed that the decision-making process of managers should take into consideration economic, legal, moral, social and physical elements. However, not until the 1950s was a more explicit reference to CSR been made when Abrams (1951) argued that companies should not only seek profits but they should also work beyond this purpose to ensure the rights of their employees, customers and the public. CSR was defined as moral obligations that employers have to fulfill, through the implementation of policies and actions, to respond to the expected values of society (Bowen 1953; Rodriguez-Gomez et al. 2020). Despite the word 'obligation', the act of CSR was mostly voluntary for businesses (Frederick 2016).

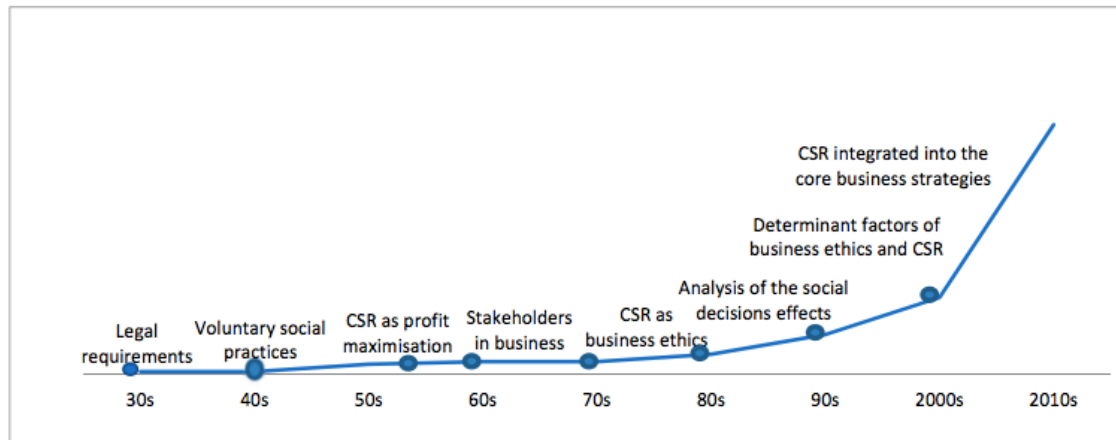
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Understanding of CSR continued to evolve with the introduction of related concepts such as stakeholders or CSR management. Throughout this process, CSR has gone from being a separated idea to an indispensable part of strategic business management (Rodriguez-Gomez et al. 2020). s



**Figure 1. The development of the CSR concept (Source: Rodriguez Gomez et al. 2020)**

At the core of CSR is the idea that businesses have an obligation to give back to society. That is, they should work towards maximizing the positive impacts of their existence and operations on society and stakeholders. CSR is generally understood as ‘the commitment of business to contribute to sustainable economic development, working with employees, their families and the local communities’ (WBCSD, 2001). In a similar vein, it is defined as management practices in which the company operates ‘in a manner that meets and even exceeds the legal, ethical, commercial and public expectations that society has of business’ (BSR, 2001).

In terms of its classification, the four areas where the impact of CSR can be felt include (Stobierski, 2021):

- Environmental responsibility: attempts to alleviate pollution, switch to renewable energy sources, counteract detrimental environmental consequences
- Ethical responsibility: ensure fair treatment of all stakeholders
- Philanthropic responsibility: donate to worthy causes, to improve people’s lives
- Economic responsibility: Aim to both maximize profits and positive impacts on the environment, people and society.

The reasons behind enterprises’ embrace of CSR are numerous. CSR is an attractive concept as it offers a win-win approach. Through CSR initiatives, charitable and volunteer activities, businesses can contribute to society while promoting their brands and products and boosting employee morale.

Early research into CSR views it as a marketing tool which helps companies to create a favorable image and reputation, thereby gaining social acceptance and improving business performance (Wójcik 2018). The commitment to CSR also helps corporations to cut costs associated with conducting business. This can be achieved through the reduction of resource costs

and avoidance of risks such as demand fluctuations, high employee turnover, absenteeism and quality problems (Kim et al. 2019). In addition, good management of CSR also helps businesses to foster trust and strengthen relations with stakeholders (Thorne et al. 2017), thus generating intangible assets (i.e. social capital) which helps companies overcome adverse situations (Hameed et al. 2016). CSR aims at long-term sustainability (Brønn & Vidaver-Cohen 2009), which is why it must be integrated into corporate strategy and action plans.

## **2. OVERVIEW OF CORPORATE SOCIAL RESPONSIBILITY IN VIETNAM**

Vietnam has undergone significant economic transformation since the ‘Doi Moi’ reform started in 1986. The high rate of modernization and industrialization in a developing country like Vietnam is often accompanied by various social issues such as environmental crises, poor working conditions and human rights abuses (Minh et al., 2018). To mitigate the impact of such issues, the Vietnamese government has made certain efforts to promote sustainability, showing a strong commitment to ‘Leaving No One Behind’. Vietnam as a member country has been actively participating in the implementation of the UN’s 2030 Agenda for sustainable development (Agenda 2030), encompassing 17 sustainable development goals with 169 specific targets that provide opportunities for all players to play a part in bettering society. This commitment has stimulated Vietnamese enterprises to take an active role in thinking, doing, and working ‘sustainably.’ There is, however, a noticeable disparity between the achievements made by large corporations and small and medium-sized enterprises (SMEs).

CSR has been predominantly introduced and practiced in Vietnam by nongovernmental organizations and multinational corporations for the last two decades. CSR exists in these institutions as part of the requirements from their home countries to meet the needs of international clients. Corporations such as Honda-Vietnam, Unilever-Vietnam, Coca-Cola Vietnam, or Microsoft have implemented their standards of ethical behavior, developed strong business culture and started CSR initiatives which are appropriate for the local markets (Phan & Podruzsik, 2018). Some successful projects include ‘I love Vietnam’ by Honda, Clean Water for Communities by Coca-Cola, and Protecting Vietnam Smile by Unilever.

On the other hand, it should be noticed that the adoption of CSR is not equal across international enterprises. The scandalous violation of environmental laws and regulations by Formosa and Vedan are perhaps some most noticeable examples of how social responsibilities can be largely ignored even by established, large-scale corporations. These irresponsible attitudes and behaviors have aggravated the plight of economically vulnerable people in Vietnam and have caused great health concerns, consequently trigger public backlashes and protests in the last few years.

On the other hand, CSR is far from a norm or business priority for Vietnamese companies who still limit their CSR efforts to unorganized charitable donations or small-scale zero-plastic campaigns. In this regard, CSR to them remains a marketing tool while its role as an important corporate strategy is not fully understood or embraced.

There are many reasons behind this phenomenon. Firstly, more than 95% of Vietnamese businesses are SMEs (OECD, 2021), who have significant difficulty accessing CSR information and policies and hiring employees with professional training in CSR. Therefore, their implementation

of CSR initiatives may require employing professional consultancy or seeking external assistance, which is often not available for Vietnamese companies of small and medium sizes. Another reason is the lack of resources and commitment for CSR.

Many local companies are driven by short-term goals, often measured by simple and visible metrics such as financial returns, with CSR mostly considered a branding technique used to generate more community acceptance and sales. Reluctance to change for sustainability also stems from the conviction that CSR is a cost rather than an investment, which only big, multinational corporations can afford. The lack of CSR awareness on the part of customers also consolidates this perception as Vietnamese customers hardly associate CSR efforts with their choice of products.

### 3. THE WAY FORWARD

Though still in the early stage of development, CSR is becoming a catchy term in Vietnam, receiving attention of an increasing number of businesses. The general outlook for CSR in Viet Nam is very promising. However, it requires a great deal of time and efforts for CSR to be among the top business priorities in the Vietnamese business environment.

On this long journey to promote socially responsible business practices, the government and enterprises are perhaps the two most important contributors. While there is no doubt that companies' determination and commitment are crucial to the success of CSR programmes, the government also plays a major part by passing laws and regulations, overseeing their enforcement, and provides information and assistance for business regarding CSR issues.

On the side of businesses, it is necessary that they embrace 'CSR as value-added' more fully and commit adequate resources to sustainable development besides their financial goals. Companies should be aware that in order to grow sustainably, compliance to environmental requirements, gender equality, human rights, labour safety and community development should be strictly ensured. Building a network or community of those interested in and committed to CSR is also beneficial when one needs to reach out for expertise.

Regarding the government, its contribution comes from the creation of an enabling environment for business to display responsible behavior, diminish risks and costs of operation, promoting a sustainable approach in business. Some major roles the government can play to support CSR efforts include (Singhal, 2014):

**Regulator:** The government can exert their control in the form of laws, regulations, penalties, tax incentives and other relevant measures. Specifically, the government can regulate business practices by establishing legal frameworks which specifies minimum standards for business operations, penalize dysfunctional business conduct, setting up inspectorates to oversee business conduct. The government can also provide tax incentives to promote responsible, ethical behavior and publicize good CSR practices conducted by leading companies; designing specific CSR award plans.

**Facilitator:** This aims to ensure business can access CSR information and business advisory services when needed. This also involves providing businesses with assistance in understanding minimum legal CSR requirements in areas such as industrial policy, trade policy, environmental policy, and labour policy.



**Liaison:** When it comes to promoting the collaboration between public agencies, enterprises, society organizations and other stakeholders to address complex social and environmental challenges, the government is in a unique position. It is within the power of the government to promote public-private partnerships for community growth and mobilize adequate resources and funding for CSR research or projects. It can initiate dialogues between businesses and their stakeholders and can also encourage the participation of key players in constructing CSR guidelines for different sectors. Organizing campaigns or training courses to raise awareness and improve knowledge can also be part of this role that the government plays.

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# THE LEGAL NATURE OF CONDOTEL

PhD. Le Thi Bich Chi<sup>1</sup>

**Abstract:** *In recent years, the resort real estate market has developed strongly, making many contributions to the country's economy, especially the condotel market. However, due to the incomplete legal framework, many disputes have also arisen and brought certain risks to customers buying condotels. The article analyzes the legal nature of condotels, focusing on clarifying the identifying characteristics and properties of condotel ownership in the current legal context, clarifying the inadequacies of the law, thereby proposing directions for improvement.*

**Keywords:** *condotel, legal nature, ownership*

## 1. CONDOTEL CONCEPT

Condotel is a resort real estate product imported from abroad into Vietnam since the 2000s, with multi-purpose use, both for living and tourist accommodation (guest house, hotel, resort). Also, a type of real estate, but the Law on Real estate trading, the Law on Housing, and the Law on Land have no identification or regulations related to the title of the condotel type<sup>2</sup>. Condotel has not appeared and officially existed in the state management by law for the condotel market<sup>3</sup>. Because there is no official regulation, the legal science currently has many views on the concept of condotel, with the following points of view:

According to the authors Doan Hong Nhung and Vu Thi Lien: *Condotel is a combination of an apartment and a hotel. Unlike hotels, each apartment in a Condotel is sold individually as condominium units. However, Condotel apartments enjoy the same facilities and services like hotel rooms. When the owner buys a Condotel apartment, the hotel's management will share the apartment like standard hotel rooms. In addition, Condotel can book apartments in the management company's short-term or long-term rental program. The apartment rental fee will divide according to the agreement between the management company and the apartment owner<sup>4</sup>.*

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2 Tran Viet Long, Nguyen Van Tu (2020), *Một số vấn đề pháp lý về “condotel” ở Việt Nam hiện nay*, Tạp chí Pháp luật và Thực tiễn, số 42/2020, tr.54

3 Nguyen Thi Nga, *Những vấn đề pháp lý và thực tiễn về kinh doanh condotel ở Việt Nam hiện nay*, Tạp chí Luật học số 9/2019, tr.58

4 Doan Hong Nhung, Vu Thi Lien (2018), *Một số vấn đề về bản chất pháp lý của Condotel - Kinh nghiệm của thế giới và định hướng xây dựng hành lang pháp lý an toàn cho bất động sản Condotel phát triển tại Việt Nam*, Tạp chí Công thương, số 12, tháng 9/2018, <http://tapchicongthuong.vn/bai-viet/mot-so-van-de-ve-ban-chat-phap-ly-cua-condotel-kinh-nghiem-cua-the-gioi-va-dinh-huong-xay-dung-hanh-lang-phap-ly-an-toan-cho-bat-dong-san-condotel-phat-trien-tai-viet-nam-57331.htm>

According to the author group Luong Thi Bich Ngan: *Condotel is a type of hotel built according to the structure of an apartment building to meet the needs of tourists with the same facilities as an apartment. For tourism business purposes. Condotel apartments can place in the management company's short-term or long-term rental program based on the agreement between the management company and the condotel owner*<sup>1</sup>.

According to Tran Viet Long, Nguyen Van Tu: *Condotel is a type of real estate that combines many functions (tourism, resort, for a living...) built on an area of exploited land that is not residential land for profitable business purposes*<sup>2</sup>.

The common point of the above views in the concept of Condotel is that they all acknowledge: (i) condotel is built according to the standard of a hotel, and at the same time is invested with private family facilities such as an apartment in a high-rise building; (ii) a condotel is a multi-purpose apartment that can be used for both residential purposes and tourism; (iii) a particular entity may independently own a condotel, but the condotel owner may agree on business forms to seek profit when the apartment is not in use.

Different from the above concepts, the author Ngo Trung Hoa said that: *Condotel is a type of hotel built according to the structure of an apartment, not a mixed-use of two purposes hotel and apartment. Condotel projects are currently being invested in and built concentrated in tourist and coastal urban areas and managed, operated, and exploited with the primary function of hotels (short-term stay and not forming residential units) ... Condotel is built to meet the requirements of tourists about being able to rest and travel in a hotel room with the structure of an apartment; so that they can use the same facilities of a flat, such as cooking, laundry, suitable for family travel needs*<sup>3</sup>. Thus, in addition to the similarities with the above concepts, the author Ngo Trung Hoa believes that condotels are only used purely for tourism purposes (condotels are not used for living purposes, so they are not a multi-purpose real estate product).

Looking back at the progress and development and the transaction market for this real estate product line, it can be seen that both the name and type of condotel product are imported from abroad into Vietnam<sup>4</sup>. In the predecessor country of this product, the concept of condotel is approached with all three attributes as mentioned. Specifically, according to Tammie J. Kaufmann, Conrad Lashley, and Lisa Ann Schreier: *Condotel is considered a multi-purpose resort real estate type. Condotel owners have a resort with full facilities and services like a high-class hotel. During the non-use period, the owner can join the condotel rental cooperation program (operated by professional hotel management companies) to rent out like any other hotel room*<sup>5</sup>. In addition,

1 Luong Thi Bich Ngan (2020), *Nhận diện bất động sản condotel tại Việt Nam và một số vướng mắc pháp lý cần trao đổi*, Tạp chí Pháp luật và Thực tiễn, số 42/2020, tr.65

2 Tran Viet Long, Nguyen Van Tu (2020), *Một số vấn đề pháp lý về "condotel" ở Việt Nam hiện nay*, Tạp chí Pháp luật và Thực tiễn, số 42/2020, tr.54

3 Ngo Trung Hoa (2018), *Phát triển và quản lý Condotel - cơ sở pháp lý và thực tiễn*, Tạp chí Nghiên cứu Lập pháp số 13 (365), tháng 7/2018, <http://lapphap.vn/Pages/tintuc/tinchitiet.aspx?tintucid=207229>

4 Le Thi Bich Chi, Truong Trong Hieu (2022), *Nhận diện rủi ro pháp lý đối với giao dịch về condotel*, Tạp chí Nhà nước và Pháp luật số 3(407)2022, tr.29

5 Tammie J. Kaufmann - Conrad Lashley - Lisa Ann Schreier (2010), *Timeshare Management: The Key Issues of Hospitality Managers*

if you approach according to own properties and how condotels operate, author Mark C.K. Lu introduced the concept: *a condominium hotel or 'condo hotel' is a condominium building professionally operated with hotel services and amenities but with individual unit/key ownership. The property's management, often an experienced national or regional chain, is thus separate from its ownership, whom may be individuals or small investors.*<sup>1</sup> This is a similar approach taken by Irvin W. Sandman and Kelly C. Aldrich: *a condotel complex is a hotel in which some or all of the apartments are sold to individuals who then own the flats. Can rent out apartments as part of hotel operations*<sup>2</sup>.

The condotel is an acronym for Condo and Hotel – a resort real estate product in semantics. In other words, in the Vietnamese sense, a condotel can be seen as a type of housing combined with motels, hotels, and resorts<sup>3</sup>, which is a combination of apartment buildings and hotels<sup>4</sup>. Therefore, we believe that condotels are only used for tourism purposes and not for accommodation purposes is inconsistent with the nature of condotels and the nature of the sharing economy.

In addition, the use of the term “tourist apartment” to replace condotel<sup>5</sup> and consider condotel as one of seven types of tourist accommodation establishments to provide services to serve the accommodation needs of tourists according to Clause 3, Article 48 of the 2017 Tourism Law is not entirely appropriate because: (i) tourist apartments are intended to be used as accommodation for tourists, while condotels are products multi-purpose, not only used for tourism purposes but also serve the owner’s own accommodation needs; (ii) transactions at tourist accommodation establishments are geared towards accommodation services while transactions in condotels have unidentified multi-purpose real estate products according to Law on Housing 2014, Law on Real estate trading 2014, and Law on Land 2013.

It should also be added that the list of 08 types of tourist accommodation establishments specified in Article 48 of the Tourism Law in 2017 does not exclude the “residential” feature of tourist accommodation establishments. Many tourist accommodation establishments are houses, and the accommodation service business does not lose the “house” feature of the tourist accommodation establishment itself<sup>6</sup>.

1 Mark C.K. Lu (2005), *The Causes and Consequences of Condo Hotel Conversion in Waikiki, Hawaii*, Unpublished dissertation, Massachusetts Institute of Technology, USA, p.31

2 Dao Thu Ha (2021), *Pháp luật Hoa Kỳ bảo vệ người mua căn hộ du lịch – Những gợi mở cho Việt Nam*, Tạp chí Nghiên cứu Lập pháp số 07 (431), tháng 4/2021, <http://www.lapphap.vn/Pages/TinTuc/210810/Phap-luat-Hoa-Ky-bao-ve-nguoi-mua-can-ho-du-lich---Nhung-goi-mo-cho-Viet-Nam.html>

3 Le Thi Bich Chi, Truong Trong Hieu (2022), *Nhận diện rủi ro pháp lý đối với giao dịch về condotel*, Tạp chí Nhà nước và Pháp luật số 3(407)2022, tr.29

4 Doan Trung Kien, Pham Thi Giang Thu (2020), *Xã hội hiện đại và những vấn đề đặt ra cho lĩnh vực pháp luật kinh tế - tài chính*, Kỷ yếu Hội thảo khoa học cấp Bộ *Những vấn đề lý luận hiện đại về nhà nước và pháp luật* do Trường Đại học Luật Hà Nội và Khoa Luật Đại học Quốc Gia Hà Nội tổ chức ngày 15/12/2020, tr.4

5 Dang Anh Quan (2020), *Bàn về tính pháp lý của kinh doanh căn hộ du lịch, căn hộ văn phòng*, Kỷ yếu hội thảo Khung pháp lý cho hoạt động kinh doanh nhà chung cư và bất động sản thương mại, dịch vụ, Thành phố Hồ Chí Minh ngày 16/7/2020, tr.12

Thuật ngữ “căn hộ du lịch” cũng được sử dụng khá phổ biến trong giới học thuật khi nói về condotel.

6 Truong Trong Hieu (2020), *Condotel liệu có “shock ngược với hướng dẫn mới*, <https://cafeland.vn/phan-tich/condotel-lieu-co-shock-nguoc-voi-huong-dan-moi-85606.html>

Moreover, the terms Condo and Hotel itself contain the properties of two types of real estate, namely “apartment” and “hotel”; on the contrary, the term “tourist apartment” includes only one type of real estate, “apartment” and the purpose of the use is “tourist.” In other words, in terms of its name and semantics, the condotel does not include tourist apartments mentioned in the 2017 Tourism Law<sup>1</sup>. This also means that the legal status of condotels cannot be equated with the legal status of tourist apartments recognized by the 2017 Tourism Law as a type of tourist accommodation establishment.

With all the above arguments and analysis, along with the selective inheritance of the views of domestic and international scientists about the concept of condotel, we believe that the idea of condotel can be understood as follows: *a condotel is an apartment built according to the standards of a high-class hotel with full amenities and attached services; When condotel owners are not in their apartment, they can rent out the apartment for short-term resort purposes by searching for tenants themselves or through a professional hotel management company.* However, in the long term, we believe that the concept of condotel needs to be legitimized to be legit and, at the same time to develop an appropriate legal regulation to ensure the safe, healthy, and efficient operation of the market. The identification not only stops at the definitions of business types, transaction methods, rights, and obligations of the subjects... but also has to supplement specific regulations on administrative procedures in licensing, investment, and real estate business in an open direction, creating favorable conditions for companies and individual investors<sup>2</sup>.

## 2. CONDOTEL IDENTIFICATION FEATURES

Although not yet identified by law, as a type of multi-purpose real estate, compared to other traditional real estate products, condotels contain the following identifying characteristics:

*Firstly*, a condotel is a product of the “sharing economy” and a multi-purpose real estate that has the function of an apartment (the owner has the right to own his apartment, used to stay), has the role of a hotel (used for tourist accommodation purposes). In other words, “A condotel building can have a part for living, apart for tourism, apart for office and apart for retail. Each apartment has its owner”<sup>3</sup>.

*Secondly*, the condotel has elements of the second home model, designed with full facilities so that visitors/users can experience the lifestyle like at their own home; both meet the short-term travel needs of the owner and, at the same time, can still be profitable when renting when the investor does not need to use it<sup>4</sup>. Therefore, a condotel must be designed and built with services

1 Le Thi Bich Chi, Truong Trong Hieu (2022), *Nhận diện rủi ro pháp lý đối với giao dịch về condotel*, tldd, tr.30

2 Le Van Hoi, *Sức hấp dẫn của thị trường bất động sản du lịch Việt Nam và tính cấp thiết của việc hoàn thiện hành lang pháp lý (2021)*, Kỷ yếu Hội thảo khoa học quốc tế Chính sách, pháp luật về bất động sản du lịch - Những vấn đề đặt ra cho Việt Nam, Hà Nội, ngày 16/11/2021, tr.81

3 Nhan Ha, GS. Đặng Hùng Võ: ‘Nên vận hành condotel dưới góc nhìn của nền kinh tế chia sẻ’, ngày 01/3/2020, <https://nhadautu.vn/gs-dang-hung-vo-nen-van-hanh-condotel-duoi-goc-nhin-cua-nen-kinh-te-chia-se-d34331.html>, truy cập ngày 01/7/2021

4 Nguyen Nhu Chinh (2021), *Cơ sở xây dựng pháp luật về kinh doanh bất động sản du lịch ở Việt Nam*, Kỷ yếu Hội thảo khoa học quốc tế Chính sách, pháp luật về bất động sản du lịch - Những vấn đề đặt ra cho Việt Nam, Hà Nội, ngày 16/11/2021, tr.153

and facilities according to the standards of a hotel; it is managed, operated, and exploited according to the hotel reservation process with the primary purpose of doing business in the form of rental for customers with travel and resort needs.

*Third*, in terms of spatial structure, a condotel “can be an apartment building or a detached house or a hotel room”<sup>1</sup>; Condotel can also exist separately in a project with only a condotel or at the same time with other types of real estate such as hotels, complex commercial centers, and entertainment.

*Fourth*, condotels are a type of resort real estate built on commercial and service land, so condotel projects often have limited ownership periods.

*Fifth*, condotel buyers usually have to agree to conditions to ensure the apartment operates like a resort, which means owners are limited in how long they can live. In contrast, condotel rental income is also considered an attractive investment result.

### 3. OWNERSHIP OF CONDOTELS

#### 3.1. Ownership: condotel or land use right

In terms of assets, condotels are tangible assets attached to the land built at a specific location, so condotels are construction works attached to land specified at point b, clause 1, Article 107 of the Civil Code 2015. Therefore, condotels have enough legal basis for affirming the owner’s ownership<sup>2</sup>. The condotel is a type of real estate, so a certificate recognizes the owner’s right to Condotel ownership according to land and housing laws. This certificate has vital legal and economic significance, not only recognizing the permission of the State management agency to transfer condotel to the project investor but also acknowledging the legitimacy of condotel buying and selling transactions on the market.

According to Clause 16, Article 3 of the 2013 Land Law, “*Certificate of land use rights and ownership of houses and other land-attached assets is a legal certificate in which the State certifies the lawful land use rights and ownership of houses and land-attached assets of the person who has land use rights and ownership of houses and land-attached assets.*” Based on this regulation, certificates can be divided into three categories: (i) Land use proper certificates; (ii) Certificate of land use rights, ownership of houses, and other land-attached assets; (iii) Certificate for assets attached to the land.

The property attached to land is also one of the groups of subjects granted the Certificate, including houses, other construction works, planted production forests, and perennial trees present at issuance. Certificate (Article 104 Land Law 2013). Thus, according to Article 104 of the 2013 Land Law, condotels are granted a Certificate of belonging to the group of objects attached to the land.

If the property attached to the land is a house, “*The house which is granted the Certificate must be an existing house*” (Clause 1, Article 9 of the Law on Housing 2014); “*In the event that a*

1 Nhan Ha, GS. *Đặng Hùng Võ: ‘Nên vận hành condotel dưới góc nhìn của nền kinh tế chia sẻ’, tldd*

2 Hoang Le Ngoc Tien Dat, Dinh Ha Thanh Binh, Bui Dinh Nghia (2021), *Hành lang pháp lý về quyền sở hữu căn hộ condotel*, Kỷ yếu chuyên đề Nhà khoa học trẻ tại Diễn đàn Luật học mùa thu lần thứ nhất do Khoa Luật Đại học Quốc Gia Hà Nội tổ chức ngày 15/10/2021, tr.145

*project comprises various buildings as defined in the decision on approval of investment project, the decision on project investment, the license of investment, the certificate of investment, the certificate of investment registration issued by the competent authority, the decision on approval of the detailed construction plan and/or the building permit, the main investor, if qualifying and applying, shall be bestowed by the competent government authority the certificate of land use right with or without ownership of the house and other properties attached to land over each building or each area in a building”* (Clause 22, Article 2 of the Decree No. 01/2017/ND-CP the Decree on amendments to certain decrees that govern the implementation of the law of the land). According to this regulation, the granted Certificate can be for each building or each area in a building; it can be issued to the project investor or the work item owner if the Certificate is eligible.

### **3.2. Owners of condotels**

Condotel is a type of real estate built in project complexes, including apartments, hotel areas, and commercial and entertainment complexes (commercial - service - office areas). – swimming pool – bar – hotel) or project complexes including restaurant service floors, conference rooms, entertainment service areas, traffic areas, technical areas, gardens, swimming pools, and 5-star hotel standard resort apartments; on commercial and service land projects; maybe in the case of being leased by the State with one-off rental payment for the entire lease period<sup>1</sup> or by the State allocating land with collection of land use fees for the construction of hotels and luxury apartments<sup>2</sup>. Therefore, on each condotel, there are two types of assets: (i) land use rights to build condotels and (ii) construction works (condotels) on land.

In principle, the certificate for the land use right to build the condotel will first be issued to the project investor (the original investor). If there is an agreement between the project investor and the condotel buyer in the condotel purchase and sale contract, clearly identify the transferee, including the condotel and the land use right to build the condotel. The transfer is by the provisions of the corresponding laws, Official Letter No. 703/BTNMT-TCQLĐĐ, dated February 14, 2020, of the Ministry of Natural Resources and Environment, currently has no guidance on whether condotel buyers are issued concurrently. Certificate of land use right, and Certificate of ownership of condotel.

Condotel is now considered a type of housing combined with motels, hotels, and resorts. It is not “house,” “individual house,” “apartment house,” “commercial housing,” “official residence,” or “social housing” as mentioned in Article 3 of the Law on Housing 2014<sup>3</sup> and not all condotels are certified. Condotel is granted a Certificate with a “construction ownership certificate.” That construction is “non-residential” and must be built on commercial and service land (in Official Letter No. 703/BTNMT-TCQLĐĐ). In other words, the issued Condotel Buyer Certificate does not automatically include the land use right for the land for constructing the condotel.

1 The Arena project, Tran Thai Cam Ranh Joint Stock Company

2 Royal Marina Center project, Marina Hotel JSC (Marina Hotel JSC)

3 Truong Thanh Duc (2018), *Bình luận về hoàn thiện pháp luật hợp đồng từ thực tiễn loại hình Condotel* (Tham luận tại Hội thảo hỗ trợ doanh nghiệp do Bộ Tư pháp tổ chức ngày 4/7/2018), Hà Nội, <https://caulacboquanlytoanha.vn/binh-luan-ve-hoan-thien-phap-luat-hop-dong-tu-thuc-tien-loai-hinh-condotel/>



Furthermore, according to the current land law, a Certificate can be issued to a party without a land use right certificate. This causes condotel buyers to misjudge the object and risk that the business will require other financial obligations related to that land use right.

Based on the instructions in Official Letter No. 703/BTNMT-TCQLĐĐ, the Ministry of Natural Resources and Environment refuses to grant condotels built on residential land even though it is not uncommon for condotel projects to exist on residential land<sup>1</sup>. It also means that these condotels are not eligible for certification according to Official Letter No. 703/BTNMT-TCQLĐĐ, so many condotel projects are not certified. In addition, the locality has revoked the certificate of land use right because the current law has not recorded the case of using residential land without forming a residential unit<sup>2</sup>. Thus, condotels built on residential land or residential land not forming residential units are not eligible for a Certificate. We think that it is unreasonable to refuse to issue a Certificate for condotels existing on residential land because:

(i) Condotel is a type of multi-purpose real estate, including the purpose of living, so if the project is residential land, the product built on that project is automatically “residential,” and because the “residential” feature should be excluded, the right to be granted a certificate for condotels built on residential land is unfair. In fact, on the residential land project, there may still be works for production activities, business;

(ii) According to the regulations on land classification based on the purpose of use in Article 10 of the 2013 Land Law, the land is divided into three specific groups: agricultural land, non-agricultural land, and unused land. Thus, the Land Law does not directly regulate mixed-use use. However, there are many cases of mixed land use between commercial, service, and residential land in reality. In addition, indirectly, the land law still has provisions used for diverse purposes, such as regulations on the management and use of land for the construction of works and projects with a combination of objectives (land for construction of condominiums and condominiums with mixed goals for living and offices, commercial, and service establishments in Article 49 of Decree No. 43/2014/ND-CP; land for construction of business establishments, commercial and service businesses in Article 153 of the 2013 Land Law); ... Many buildings in the center of big cities that below are retail centers, above are apartments to live in. This is an inevitable trend of the sharing economy. This is also confirmed by the Ministry of Natural Resources and Environment leader, “We do not object in a building with residential land and commercial and service land”<sup>3</sup>. Clause 22, Article 2 of Decree No. 01/2017/ND-CP, recognizes “projects with many work items” and stipulates the issuance of Certificates “for each building or each area in a building” In other words, guidance

1 Truong Trong Hieu (2020), *Condotel liệu có “shock ngược với hướng dẫn mới*, <https://cafeland.vn/phan-tich/condotel-lieu-co-shock-nguoc-voi-huong-dan-moi-85606.html>

2 Khanh Hoa (2019), *Condotel lao dốc sau cú sốc thu hồi sổ đỏ lâu dài*, <https://vietnamnet.vn/vn/bat-dong-san/thi-truong/condotel-lao-doc-sau-cu-soc-thu-hoi-so-do-lau-dai-541604.html>; Mai An (2021), *Khánh Hòa: Hồi kết cho dự án có “đất ở không hình thành đơn vị ở”*, <https://diendandoanhnghiep.vn/khanh-hoa-hoi-ket-cho-du-an-co-dat-o-khong-hinh-thanh-don-vi-o-192929.html>; Truong Anh (2020), *Bình Định tạm dừng quyền của 5 cá nhân sở hữu 5 biệt thự nghỉ dưỡng của FLC*, <https://cafeland.vn/tin-tuc/binh-dinh-tam-dung-quyen-cua-5-ca-nhan-so-huu-5-biet-thu-nghi-duong-cua-flc-89634.html>

3 **Ban Mai (2022)**, *Condotel: Điều chỉnh những dự án đã cấp sổ đỏ?*, <https://vneconomy.vn/condotel-dieu-chinh-nhung-du-an-da-cap-so-do.htm>

on the distribution of Certificate of Ownership for condotels that are non-residential construction works (indirectly affirming not to issue Certificates of Condotel as residential houses) in Official Letter No. 703/BTNMT-TCQLĐĐ is not entirely consistent with the spirit of the document as we have mentioned.

### 3.3. Condotel ownership term

Currently, common condotel construction land is commercial and service land. This is also one of the conditions for being granted a condotel certificate according to the instructions in Official Letter No. 703/BTNMT-TCQLĐĐ. According to the land law, land used for commercial and service purposes is used for a definite term. The land use term “*shall be considered and decided based on the investment projects or applications for land allocation or land lease, but must not exceed 50 years.*”

*For large investment projects with the slow recovery of capital, projects in areas with difficult socio-economic conditions or with harsh socio-economic conditions which require a longer-term, the term of land allocation or land lease must not exceed 70 years” (Clause 3, Article 126 of the 2013 Land Law).* This also means that, when a condotel buyer is eligible to be granted a Certificate, the buyer can only use the land and own the apartment “during the remaining time of land use of the investor, not regular and long-term use... This has been determined by the Ministry of Natural Resources and Environment and guided by local Departments of Natural Resources and Environment in Official Dispatch No. 703/BTNMT-TCQLĐĐ”<sup>1</sup>. Specifying the term of the Certificate helps to determine the correct value of the condotel, expand the audience to access and own and use; helps condotel buyers identify the suitable proper object and transaction value, avoiding risks in condotel transactions. It should also be noted that if the investor delays implementing the project schedule and handing over the condotel, the economic interests of the buyer will undoubtedly be affected by the average condotel selling price. It is calculated based on land price, location, area, quality, ... and ownership term. Once this is understood, buyers need to have legally binding agreements with businesses when handing over delays, such as penalties for breach of contract, requesting a discount corresponding to the delay time, etc.

If the land to build a condotel expires and the investor requests permission to extend the land use term, there are two possibilities<sup>2</sup>:

(i) If the land use term is extended, the condotel owner must pay land rent for the entire extension period at the price of commercial or service land at the time of extension;

or

(ii) if the land use term is not extended, the State will recover the land, and the condotel owners will not be compensated.

Suppose, during the use period; the State recovers the land and the apartment building attached

1 Dang Anh Quan (2020), *Bàn về tính pháp lý của kinh doanh căn hộ du lịch, căn hộ văn phòng*, Kỳ yếu hội thảo Khung pháp lý cho hoạt động kinh doanh nhà chung cư và bất động sản thương mại, dịch vụ do Trường Đại học Luật Thành phố Hồ Chí Minh tổ chức ngày 16/7/2020

2 Articles 65, 109, 126 Land Law 2013

to the ground. In that case, the condotel owner will only be compensated at the price of commercial and service land (lower than residential land) for remaining used and not resettled<sup>1</sup>.

Suppose the land for condotels is changed from commercial or service land to residential land. The land use form is changed from lease to land allocation with a collection of land use levy; the apartment buyer, in the purchase money has been paid to the enterprise (investor), will have to pay land use levy to the State at the price of residential land at the time of issuance of the decision to permit the conversion<sup>2</sup>.

However, most contracts do not envisage extension of land use term or change of land use purpose, including arrangements for related financial obligations. Therefore, when the land use term expires or is forced to change the land use purpose, condotel buyers reluctantly accept all relevant requirements by the investor and state agencies.

#### 4. CONCLUSION

For condotel transactions to become an investment channel for themselves, to avoid possible unfortunate risks, each condotel buyer needs to understand the identity and ownership characteristics of the transaction object. Besides, to contribute to perfecting the legal framework for condotels, in our opinion, the following legal solutions should be considered:

- (i) identify condotels in legal documents;
- (ii) officially record and develop an enforcement mechanism for mixed-use land-use regimes;
- (iii) recognize and issue certificates for condotels existing on residential land.

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6. Decree No. 46/2014/ND-CP dated May 15, 2014
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# **BANKING INDUSTRY WITH THE INTERNATIONAL INTEGRATION IN THE SUPPLY CHAIN 4.0 AND THE FORMATION OF AN INTERNATIONAL FINANCIAL CENTER**

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**Abstract:** *The industrial revolution 4.0 and the national goal of sustainable development to 2030, with a vision to 2045, require Vietnamese banks to radically digitalize in order to increase the scale and efficiency of resource. Vietnamese banking industry has not properly exploited the manufacturing industry segment with a vision of international integration in the supply chain 4.0. The solution to this problem is to become a member of the Global Lighthouse Network, which belongs to the World Economic Forum (WEF), bringing together the world's leading manufacturing industry ecosystems. The process of international integration in the supply chain 4.0 requires concentrated accumulation of investment flows through the regional and world-class financial centers. Hanoi and Ho Chi Minh City are planned to develop as a regional and international financial center. Vietnamese banks need to actively participate in this process for the sake of national interests and for the sustainable development of each bank. This paper will assess the general context of Vietnam and the world, then propose the vision and analyse opportunities, challenges, and development trends of the banking industry with the international integration in the supply chain 4.0 and the formation of an international financial center.*

**Keywords:** *digitalization in banking industry; supply Chain 4.0; international financial center.*

## **1. THE CURRENT CONTEXT OF VIETNAM AND THE WORLD**

### **1.1. Sustainable growth in the world and the awareness of labor productivity**

The success or failure of each country's sustainable development goals as well as the competitiveness of developed economies is determined by sustainable growth in labor productivity. The manufacturing industry is the main economic force, determining the growth of labor productivity of the economy. Considering the US, manufacturing industry accounts for about 10% of total GDP and 10% of total employment, but consumes up to 20% of total investment capital, 70% of research and development costs and especially generates 35% of total labor productivity growth, 60% of export turnover.

A strong manufacturing industry helps stabilize the entire economy, strengthens national security, and strengthens supply chains. On the contrary, a weak manufacturing industry inevitably leads to import dependence and the national economy becomes vulnerable to currency fluctuations and international supply chain disruptions.

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Developing the manufacturing industry by applying 4.0 technology is the only right way to increase labor productivity to meet the goal of sustainable growth, which requires fair, close and long-term cooperation of the entire member of the world economy as well as of individual national economies. The world economy has become a multi-dimensional ecosystem that includes no shortage of national economies.

With the goal of promoting the application of advanced technology in the manufacturing industry, the World Economic Forum and McKinsey cooperated to establish the Global Lighthouse Network bringing together manufacturers of the manufacturing industry. As the world leader in 4.0 technology application in factory development, supply chain and business model, as of June 2022, this network consists of 103 members from many sub-industries. Network members are always actively collaborating on projects for the common advancement of the manufacturing industry, with 103 leading production facilities and value chains in the world using the technology of the industrial revolution 4.0. To increase operational productivity and environmental sustainability, members of the Global Lighthouse Network are adopting innovative technologies to increase supply chain resilience, strengthen green practices and promote the participation of the labor force of the entire economy.

The creation of comprehensive and thorough application manufacturing technology 4.0 (Cloud computing - Mobile - Internet of Things - Artificial Intelligence) inevitably leads to a growing polarization among business groups leading industry and the rest of the groups. This polarization will quickly cause growing inequalities among the constituents of the world economy and thereby undermine the sustainable growth of the whole world in the not too distant future. Therefore, with the aim of sustainable development for the whole world, the Global Lighthouse Network of the World Economic Forum is not only limited to increasing labor productivity, but also strives to maximize its influence, expanding the goal of flexible operation and sustainable development for the entire world economy.

## **1.2. Vietnam - Sustainable development orientation to 2030, vision to 2045**

Resolution No. 39-NQ/TW issued on January 15, 2019 on improving the efficiency of management, exploitation, use and promotion of the economy's resources and Resolution No. 50 -NQ/TW promulgated on August 20, 2019 on the orientation for completing institutions and policies, and improving the quality and efficiency of foreign investment cooperation by 2030 has set out the targets towards Vietnamese sustainable development to 2030, with a vision to 2045.

Renovating the growth model effectively using the economy's resources, especially human resources with scientific, technological and innovation capabilities. Focusing on synchronously implementing solutions to improve labor productivity, quality, efficiency, competitiveness and sustainable development of the economy. Improving the capacity of creation, national governance and the capacity of self-reliance and innovation of enterprises.

Detail targets:

- By 2025, the proportion of employees working in agriculture, forestry and fishery will be less than 33% of the total number of employees in the country. Overcoming the imbalance of supply - demand of human resources in the economy.

- By 2035, the proportion of labors working in agriculture, forestry and fishery will be less than 25% of the total number of employees in the country. The Human Development Index (HDI) ranges from 0.700 to 0.799.

- By 2045, the proportion of labors working in agriculture, forestry and fishery will be less than 15% of the total number of employees in the country. The Human Development Index (HDI) reached a level of 0.800 or higher. Labor productivity and competitiveness of Vietnamese human resources reach the average level of ASEAN-4 countries.

- The localization rate increases from 20-25% at present, to 30% in 2025 and 40% in 2030. The proportion of trained workers in the total labor force from 56% in 2017 to 70% in 2025, and 80 % by 2030.

- By 2030, gradually reduce the state budget deficit to about 3% of GDP, aiming to balance state budget revenue and expenditure. By 2030, public debt will not exceed 60% GDP, government debt will not exceed 50% GDP, and the country's external debt will not exceed 45% GDP.

Foreign investment targets corresponding to the same period as follows:

- Registered capital for the period 2021 - 2025 is about 150-200 billion USD (30 - 40 billion USD/year); for the period 2026 – 2030 is about 200 - 300 billion USD (40 - 50 billion USD/year).

- Implemented capital in the period 2021 - 2025 is about 100 - 150 billion USD (20 - 30 billion USD/year); for the period 2026 - 2030 is about 150 - 200 billion USD (30 - 40 billion USD/year).

Banking has always been a key sector of the economy, but also one of the most accurate measures of a country's technological development. Therefore, in order to effectively implement synchronous solutions to realize the general and specific targets of the Vietnam for sustainable development to 2030, with a vision to 2045, the banking sector must strongly increasing the scale and efficiency of resource, being the main and effective capital channel of the economy and leading foreign capital flows to Vietnam.

It can be affirmed that the manufacturing industry is the core for the development of the international supply chain 4.0, so the cooperation with manufacturing industries is the inevitable path of the Vietnamese banks to achieve scale efficiency and efficiency resource from now to 2030, with a vision to 2045.

## **2. BANKING INDUSTRY WITH THE INTERNATIONAL INTEGRATION IN THE SUPPLY CHAIN 4.0 AND THE FORMATION OF AN INTERNATIONAL FINANCIAL CENTER**

### **2.1. Vietnamese banks face challenges from scale up and digitalization**

The promotion of digital transformation in the banking industry, the application of new technologies to banking products and services, contributes to strengthening the interconnection between the capital market and the money market capital of the economy and transparency of cash flows in the market to monitor risks.

On June 8, 2022, the Prime Minister issued Decision No. 689/QQD-TTg approving the project "Restructuring the system of credit institutions associated with bad debt settlement in the 2021-2025 period". Accordingly, there is some targets including: leading commercial banks will have



to complete the application of Basel II by advanced methods to reach ASEAN-4 level by the end of 2025; There are 2 to 3 Vietnamese banks are among the top 100 largest banks in Asia; Listing shares of Joint Stock Commercial Bank on the Vietnamese stock market and 1 or 2 Joint Stock Commercial Banks could list their shares on international stock markets.

Thus, the goal of Vietnamese sustainable development to 2030, with a vision to 2045, requires banking industry to make drastic changes in both quantity and quality, in which radical digital transformation to comprehensively apply 4.0 solution becomes an indispensable requirement.

The industry 4.0 era is characterized by four technological superpowers: the first one is cloud computing, unlimited supercomputing capacity; the second one is mobile, unlimited accessibility; the third one is the internet of things, unlimited access; the fourth one is artificial intelligence, unlimited intellectual ability. These four superpowers promote inter-operability to become the trend of the world economy from now to 2045, redefining all production and business industries.

According to the State Bank of Vietnam, by September 2020, 95% of commercial banks are developing or planning to develop a digital transformation strategy, of which 39% of commercial banks have approved a digital transformation strategy to business development as well as information technology and 42% of commercial banks are developing a digital transformation strategy.

Digital transformation is a radical and comprehensive change in banking culture, organization and business activities. In the most basic sense, digital transformation is the provision of banking and financial products and services through the Internet environment. In a comprehensive sense, digital transformation is the complete innovation of the bank's operations by automating processes, exploiting big data in order to simultaneously optimize the bank's resource use efficiency and provide the best customer experience.

However, the reality of the Vietnamese market is showing that the overwhelming percentage of digital banking applications focuses on serving individual customers while the supply chain for large-scale manufacturing has barely appeared. This invisibly restricts the banking system from deeply participating in sustainable national growth and thereby also prevents the bank from rapidly increasing its scale.

## **2.2. The development trend of the world finance and banking market**

In the world finance and banking market, research by many leading consulting organizations shows that polarization is and will be the mainstream trend, in which some organizations break through, creating a large gap in both size and scale and profit margin relative to the rest. The top four factors influencing the polarization process: i) Geoeconomic location, ii) Organization size, iii) Target market segment, and iv) Business model.

Forecast for 2019 – 2024, GDP of China will grow annually 5.4%, ASEAN is 4.8% compared to North America 2.5%, Eastern Europe 2.4%, Japan-Korea 1.5% and Western Europe 1.4%. And it is forecasted that by 2025, banking revenue in emerging markets will account for 50% of the total world market compared to only 20% at the beginning of the 20th century. Thus, in the medium and long-term, with geographically connected between the two fastest growing regions, China and ASEAN, Vietnamese banking industry maintains its leading favorable geo-economic position in the world.

If geo-economics is an objective condition, technology (by default understood as 4.0 superpowers) is the focus of competition in world finance and banking market. Simply because technological progress decides to optimize the effectiveness of all three factors: organization size, market segmentation and business model.

For successful strategic repositioning, each bank has to face many big questions as follows:

a. Has the bank built a difference in customer relations? Once a customer changes business lines, can the bank continue to maintain a close customer relationship?

b. Can the bank exploit a different and superior source of customer information compared to competitors both inside and outside the banking sector?

c. Does the bank have the courage to invest large resources in market segments, businesses and geographies in which the bank has a distinct position?

d. Can a bank with a steady stream of new revenue continuously replace the declining revenue in the core banking sector?

e. Does the bank have a strategy to meet the requirements of sustainable socio-economic development?

f. Does the bank have a transparent vision of how to build economies of scale?

g. Does the bank have in-depth understanding and specific solutions for current risks and potential medium and long-term risks? If so, will those solutions help the bank tap into new sources of growth?

h. Does the bank have a plan to attract investors through value-added creation that is superior to the market average?

i. Has the bank developed an innovative foundation with an honest and talented startup culture that enables the bank's strategic ambitions to be realized?

Bank growth achieving scale efficiency is not only a matter of survival in the world finance and banking market but also has a strong impact on the sustainable growth of labor productivity of the entire economy .

### **2.3. The international integration in the supply chain 4.0**

Internally, the international supply chain 4.0 is a lever to help the entire national economy grow dramatically, thereby dramatically increasing the revenue, profit and scale of Vietnamese banks. In terms of foreign affairs, the international integration in the supply chain 4.0 is also an optimal way for businesses in general and the bank.

Five strategies for manufacturing industry development and specific actions that bank of Vietnam can directly participate in will be presented as follow:

Firstly, ensuring the appropriate level of investment: What mechanisms are needed to coordinate investment capital in the right place, in sufficient volume and in a timely manner for the activities and businesses that need the most investment? Where is it suitable to use state budget capital? Where should private capital and capital from bank credit be used? How can Vietnam

apply successful lessons from the experience of KfW in Germany, Finance Corporation in Japan or European Investment Fund of the EU? In this section, banks can and always are the largest sources of investment through short-term to medium and long-term credit.

Secondly, ensuring human resources in both quantity and quality: How to quickly meet human resource needs at positions where personnel need 2-3 years of training? How should enterprises raise wages and improve working conditions to attract high-quality human resources? How should the national education and training system change to meet the requirements of the manufacturing industry? This content support directly from the bank is negligible.

Thirdly, improving labor productivity through process improvement and application of technological: Medium and long-term technology strategic vision of each segment, how each enterprise can build a suitable technology? This content support directly from the bank is negligible.

Fourthly, building a strong domestic and local supplier network: What specific measures can accelerate the construction of a local supplier ecosystem that meets international supply chain requirements? What moves can help the domestic supply chain increase transparency and cohesion? What are the requirements for international partners to help make domestic supply chains flexible and sustainable?

How should industrial production standards and business relations innovate to promote technology transfer and in-depth cooperation? In this context, banks can especially effectively promote the role of cooperative relationship management with small and medium-sized suppliers because the practice shows that international supply chains can often only afford to manage important aspects. cooperation with the largest supplier.

Fifthly, researching to find out the disadvantages in competition: What is the effectiveness of policies to support the manufacturing industry in Vietnam compared to other countries in the region? Compared with partners in the same supply chain? What are the limitations of Vietnamese fiscal policy, monetary policy, and land use management policy, and how can it be adjusted? This content banks can participate through funding research institutions.

#### **2.4. Banks, an international finance center and an international supply chain 4.0 in Vietnam**

An international finance center is a valuable opportunity to help Vietnamese businesses in general and banks in particular quickly grow and effectively scale in the world market. And on the basis of traditional geo-economic advantages, Hanoi and Ho Chi Minh city are always the first two places to be considered when Vietnam aims to develop an international finance center.

On February 25, 2022, Ho Chi Minh city announced the first draft of the international finance center project in Ho Chi Minh city, chaired by the Ho Chi Minh Financial Investment Company, integrating the two projects of Fulbright University and the Inter-Pacific Corporation. Throughout this draft, a specific financial liberalization mechanism is required and only when the Vietnamese currency is freely convertible can the international finance center in Ho Chi Minh city be competitive in the ASEAN.

In fact, Resolution No. 54/2017/QH14 which is issued on November 24, 2017 on piloting specific mechanisms and policies for the development of Ho Chi Minh city has granted autonomy

to the city with 18 contents in 5 areas: land, investment, finance - state budget, authorization mechanism and income of officials and public office. However, up to now, after four years of implementation, most of these specific policies have not been effective.

According to another rationale, the supply chain 4.0 orientation instead of the financial liberalization orientation, the international finance center does not necessarily need to be freely convertible national currencies, but with a high concentration of financial institutions and banks, integrated with the international supply chain 4.0, reaching an advanced scale and level of development. Hanoi shows that this orientation is consistent with the condition if Hanoi could perfectly connects the international supply chain 4.0 with the capital region and the broader Northern key economic region, ensuring investment flows to serve the needs of production supply chain forces instead of the risk of turning into speculative activities.

The Northern key economic region consists of seven provinces and cities (Hanoi, Hai Phong, Quang Ninh, Hai Duong, Hung Yen, Vinh Phuc, Bac Ninh) and is the center of politics, economy, culture, national defense. national security, accounts for 32% of GDP and 32% of the country's exports (2019 figures). The manufacturing industry, the core of the international supply chain 4.0, is currently one of the region with highest growth.

On January 24, 2019, the Resolution No. 45-NQ/TW on building and developing Hai Phong city to 2030, with a vision to 2045 set specific targets for Hai Phong by 2030 that: the proportion of contribution to the national GDP will reach 8.2%; contribution to GDP of the Northern key economic region will reach 28.3%; average GRDP growth in the period 2026 - 2030 will be at least 12.5%; The average GRDP/person will reach 29,900 USD; budget revenue in locals will reach 300,000 - 310,000 billion VND. In fact, Hai Phong has been set as the focal point of the manufacturing industry, constituting the international finance center of the Northern key economic region serving the international supply chain 4.0.

Considering the medium and long-term vision, the international airport, mainly transporting goods, directly connected to Hai Phong international deep-water port will be a lever for sustainable competitive advantage of the international finance center in the Northern key economy region. Comparing to similar airport and deepwater ports in Dubai, UAE, or Singapore, the Northern key economic region is still capable of soonly excelling in production scale and diverse high-tech agricultural products.

The Vietnamese banking industry can and should actively participate in the formation and development of the international finance center in Ho Chi Minh City and the Northern key economic region. The first measure is co-financed banks to invite leading international consulting tenders (McKinsey, BCG or Bain) combined with collective intellectual mobilization to contribute practical and feasible ideas to the Government. The second measure is that each bank strives to competitively supply banking products and services for manufacturing industry enterprises, the core of the international supply chain 4.0, and quickly become a member of the Global Lighthouse Network of the World Economic Forum.

### 3. CONCLUSION

The role of the Vietnamese banking sector in sustainable growth is particularly important. The objective reality of the period from now to 2030 requires each bank to drastically increase the scale of operations as well as the efficiency of resource use by comprehensive and thorough digital transformation in order to deeply integrate with the supply chain 4.0, in which products serving the international finance center and the manufacturing industry are key issues that need to continuously invest heavily in research and development.

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# LEADERSHIP OF SMES DURING COVID-19: A STUDY OF AMBIDEXTROUS LEADERSHIP FOR FOOD AND CATERING SERVICES IN VIETNAM

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*Abstract:* Although previous studies affirmed the vital role of leadership in small and medium-size enterprises (SMEs), there have been few studies conducted on the impact of leadership on SMEs performance when dealing with crises and the Covid-19 pandemic in particular so far (Lestari, D., Zainurossalamia ZA, S., Maria, S., Wardhani, W., and Yudaruddin, R., 2021; Ahern, S., Loh, E., 2020; Olusegun Atiku, S., Okoth Randa, I., 2021; Alex Cabral, Heather Freeman, Robby Sachs, Tom Schmidt, José Gamez, 2020). This research investigates how leadership sustains SMEs in the context of Covid-19 pandemic and then recommends implications for SME leadership in the situation of crises in broader context. Research data were retrieved from prestigious web-based libraries such as Google Scholar, Scopus, Research Gate, etc. To test the research hypothesis and answer the research questions, the authors conduct direct interviews and an online survey of 30 Vietnamese SME leaders and managers who do their businesses in foods and catering sector. Survey data will be processed using descriptive analysis method. Research findings are expected to support previous statements that leadership plays a crucial role in the survival and development of SMEs during crises, especially ambidextrous leadership, which fosters business innovation, is a key to sustain business operation during the formidable periods. We also expect the research results will be beneficial for both SME leaders and the government when dealing with future extreme situations.

**Keywords:** *Leadership, SMEs, Covid-19 pandemic, ambidextrous leadership, leadership styles, resilience, transformational leadership, situational leadership, transactional leadership, strengths, weaknesses, opportunities, challenges*

## 1. INTRODUCTION

Since the Coronavirus Disease 2019 (Covid-19) broke out the first time in China late 2019, it has been continuously proliferating over the world leading to an on-going pandemic and affecting negatively all countries, cultures, businesses and people (Akpan et al., 2020a; CDC 2020; Huang et al., 2020; Ting et al., 2020). It was a social and economic crisis at world level causing tremendous loss of lives, playing havoc to business activities with adverse effects on small and medium businesses (Akpan et al., 2020; Humphries et al., 2020).

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According to figures by February 11<sup>th</sup>, 2022, there had been 407,771,748 Covid-19 positive confirmed cases and 5,798,343 deaths worldwide (WHO, Covid-19 Dashboard). The global economic growth in 2021 fell below 6%, and even worse in regions being devastated by the Delta variant (IMF, 2021); the global unemployment rate in 2022 is forecast to be 5.7%, equivalent to 205 million job losses, surpassing 187 million people in 2019, or “approximately four times greater than the number of jobs lost during the 2009 global financial crisis”, the ILO estimated in a statement. “This has been the most severe crisis for the world of work since the Great Depression of the 1930s”, ILO chief Guy Ryder told reporters in a virtual briefing.

In global economies, SMEs play a role as the backbone of the economy due to their crucial contribution to economic growth; hence, they are considered a strategic part of the economy (Avasilicai, 2009). Peter Drucker stated that small enterprises represent the main factor of economic development, those small businesses contribute intensely to achieving the fundamental goals to any national economy, becoming the backbone of social-economic progress (Drucker, 2009). In Australia, SMEs make up 99,8% of all Australian businesses, equivalent to 2.309.436 small and medium-sized enterprises, hiring more than 7.6 million people, contributing one-third of total GDP, and representing 90% of all goods exporters and 60% of services exporters (Australian Bureau of Statistics (ABS), 2018-2019). In the US, there are approximately 32.5 million of SMEs hiring 61.2 million employees, equivalent to 46.8 percent of the US workforce (Oberlo, Statistics, 2017-2021).

However, SMEs are likely to be very vulnerable to Covid-19, as they tend to be more concentrated in sectors that have been directly affected by the pandemic response measures (e.g., retail and services) and are typically more credit constrained than larger businesses (Cao & Leung, 2020; Kumar & Francisco, 2005). Importantly, SMEs comprise the majority of companies in the economy and are responsible for a substantial share of employment (Humphries et al., 2020). When the Covid-19 hit, SMEs managers had to limit or close their business activities when the governments continuously applied social lockdowns and other restrictions due to increasing number of Covid-19 confirmed cases and escalating number of daily deaths (Mayland et al., 2020). Therefore, SME leadership style with appropriate and effective decisions would be a key in inspiring, motivating, and alleviating such extreme challenges (Bandy, 2016).

### **1.1. Research objectives**

This study thoroughly reviews notable research works on SME leadership in the time of crisis to find out opportunities and challenges that SME leaders encounter during business activities, it also identifies appropriate leadership styles and policy implications for both SME leaders and government to tackle extreme situations.

### **1.2. Research questions**

For the research context, we set out research questions as following:

Q1: What are the challenges and opportunities for the SMEs during time of crisis?

Q2: How are they responding to the crises such as Covid-19?

Q3: How can leadership styles support SMEs to handle extreme situations?



To find the satisfactory answers to the research questions, we investigated Vietnamese SMEs' responses to Covid-19 by designing a questionnaire and delivering it to them by email. Research sample composed of 30 food and catering SMEs in Vietnam, to which we consecutively applied the descriptive analysis on the feedbacks to discover evidences and to address the research questions.

### **1.3. Research structure**

This research is structured into four sections (i) literature review is designed to make a holistic overview of previous papers, journals, textbooks, websites and other sources of information related to the leadership of SMEs, leadership in the time of crisis and in the context of Covid-19 in particular. Research materials are retrieved from diversified sources such as Google Scholar, ISI index, Scopus, Research Gate, SCImago, and official websites of science. In this section, We focus on reviewing notable leadership styles such as situational leadership, transformational leadership, transactional leadership and ambidextrous leadership identifying their advantages and disadvantages and then proposing the best styles for the crisis situations; (ii) the second section is on SME leadership in the context of Covid-19, in this section we particularly focus on analysing the important role of SMEs and their significant contribution to global economies, we also examine how they are affected by the Covid-19 and what they should do to take advantage of opportunities as well as good practice to combat the consequent difficulties; (iii) the third section attempts to answer the research questions. In this section, we conduct direct interviews and online survey using Likert scale questions on SME leaders and mid-level managers to find out how they react to the pandemic. Based on their feedbacks, we will be able to propose a practical view of good practices that they should do to respond to the pandemic and even future crises; and (iv) the fourth section summarizes research findings and proposes conclusion.

### **1.4. Research gaps and proposed delimitations**

This research is an attempt to discover emerging trend of SME leadership to manage pandemic situation. It equips SME leaders with knowledge and skills needed to run their business effectively and sustainably through the time of crisis. However, due to the adoption of a qualitative method, we only focus on reviewing literature in the field of study and strive to capture trends and recommendations probably considered to be the most suitable. Moreover, due to the limited research sample which is solely focus on mid-level SME leaders operating in food catering sector in Vietnam, therefore, it may lack quantitative evidence for the issues of question and needs to be further investigated through a survey with broader research sample and with quantitative methodology. We expect to conduct this research for the same topic in the nearest future.

## **2. LITERATURE REVIEW**

### **2.1. Definition of SMEs**

Small and medium-sized enterprises (SMEs) or small and medium-sized businesses (SMBs) are businesses whose personnel numbers fall below certain limits. The abbreviation "SME" is used by international organizations such as the World Bank, the European Union, the United Nations, and the World Trade Organization (WTO) (Wikipedia, Small and Medium-sized Enterprises)

The SME definition varies across nations. The most used definitions relate either to the size of employment and/or quantum of capital investment/fixed assets. Private enterprises in PRC are defined as SMEs when they have less than 2,000 employees, or annual revenues under CNY 300 million or total assets under CNY 400 million. In Europe, SMEs are defined as enterprises in the non-financial business economy employing less than 250 persons, annual turnover less than 50 million euro and balance sheet total less than 43 million euro. In the US, small business enterprises mean organizations of up to 1,500 employees and a turnover of 0.75–29 million US dollars, depending upon the type of business. In Australia, the Australian Bureau of Statistics sets a definition of SMEs as enterprises with less than 200 employees.

## **2.2. The role of SMEs in global economies**

The SMEs are worldwide recognized as engines of economic growth for their significant contribution to production and exports along with immense job creation potential. According to International Trade Centre (2019), SME(s) statistically supply 70 per cent of jobs in countries across the globe. Mbuyisa and Leonard (2017) revealed that 90 per cent of businesses, at least in both developing and developed countries are SME(s). Over 99 per cent of the enterprises in EU's non-financial business economy are SMEs, with a majority (92 per cent) of the SME sector being microenterprises, and about two-third of total private sector employment is found in SMEs (EIM Business & Policy Research, 2009). They account for 95–99.9 per cent of all enterprises in OECD or Association of Southeast Asian Nations (ASEAN); 40–60 per cent of GDP; 70 per cent of employment; and 25–35 per cent of exports. In the US, small businesses generate more than half of the non-farm business GDP, employ more than half of the private sector workers and since mid-1990s, small businesses have generally created 60–80 per cent of the net new employment. As depicted by recent US census, small businesses constitute 97.3 per cent of all known exporters engaged in 30.7 per cent of total transactions. Among major emerging economies, India has 95 per cent of the industrial units as SMEs, contributing 40 per cent of the industrial production and 34 per cent of the exports (Planning Commission of India, 2007–11). In People's Republic of China (PRC), 99 per cent of all business enterprises are SMEs in 2008, accounting for 58.5 per cent of the PRC's GDP, 74.7 percent of industrial new value added and 62.3 per cent of the total export values (Liu, 2009). The figures show the essential role of SMEs in global economies, thus making it imperative to discover how small businesses, apart from the larger ones, are affected across the globe during the crisis.

## **2.3. Leadership styles**

One of the earliest studies of leadership, Galton's (1869) Hereditary Genius offered a basic concept of leadership (Zaccaro, 2007). The idea is that leadership is a characteristic ability of extraordinary individuals. This concept of leadership, known as the great man theory, developed into the study of leadership theory.

### **2.3.1. Situational leadership**

Situational leadership theory proposes that effective leadership requires a rational understanding of the situation and an appropriate response, rather than a charismatic leader with a large group of

dedicated followers (Graeff, 1997; Grint, 2011). Situational leadership in general and situational leadership theory evolved from a task-oriented versus people-oriented leadership continuum (Bass, 2008; Conger, 2010; Graeff, 1997; Lorsch, 2010). Situational leadership theory focuses on leaders' behaviours as either task or people focused. This supports its inclusion as a behavioural approach to leadership, like the leadership styles approach (autocratic, democratic, and laissez-faire), the Michigan production-oriented versus employee-oriented approach, the Ohio State initiation versus consideration dichotomy, and the directive versus participative approach (Bass, 2008; Glynn & DeJordy, 2010). It also portrays effective leadership as contingent on follower maturity. This fits with other contingency-based leadership theories including Fiedler's contingency theory, path-goal theory, leadership substitutes theory, and Vroom's normative contingency model (Glynn & DeJordy, 2010; Bass, 2008; Yukl, 2011). Situational leadership theory admit that task-oriented and relation-oriented behaviours are dependent, rather than mutually exclusive approaches. The effective leader engages in a mix of task and relation behaviours (Cubero, 2007; Graeff, 1997; Shin et al., 2011; Yukl, 2008; 2011; Yukl & Mahsud, 2010). The level of maturity (both job and psychological maturity) of followers determines the correct leadership style and relates to previous education and training interventions (Bass, 2008; Hersey & Blanchard, 1969).

### **2.3.2. Transformational leadership**

Transformational leadership is the ability to make followers desire changes to improve a systematic problem or create innovation (Northouse, 2001). Leadership is characterized by developing and supporting behaviours - developing includes coaching and mentoring, while supporting includes being friendly, considerate, sympathetic, appreciative of followers (Yukl & Nemeroff, 1979; Yukl & Lepsinger, 1990; Kim & Yukl, 1998). There are four main strategies to develop this leadership: idealised role model, inspiration to reach extraordinary goals, intellectual challenges, and individual consideration (Kent et al., 2001; Bass et al., 2003). Transformational leadership is effective in achieving innovation (Paulsen et al., 2013), job satisfaction, team development, commitment, employee retention, performance improvement (Medley & Laroche, 1995; Pillai et al., 1999; Asgari et al., 2008). However, it also exposes several problems such as burnout potential (Seltzer & Bass, 1989), loss of traditional protocols (Krishnan, 2003), misuse of power, which requires an integrity focus selection process for managers (Tourish, 2014), favoritism of treatment and the decline of productivity as employees might utilise their leaders' support (Anderson & Sun, 2015), productivity decline due to unclear guidance (Yukl, 1999).

### **2.3.3. Transactional leadership**

Transactional leadership or managerial leadership establishes a contractual exchange between leaders and their followers to complete required tasks (Bass, 2008) with the mindset of punishments and rewards. There are some empirical evidence to support the effectiveness extent of the leadership style in some settings (Hater & Bass, 1988; Bass et al., 2003; Zhu et al., 2012). The strategies to develop the leadership include contingent rewards (Rezvani et al., 2012; Camps & Torres, 2011), and active or passive management by exception (Tetteh-Opai & Omoregie, 2015). The contingent rewards are to exchange for agreed-on objectives meeting behaviours. The other aspect is about an error control process to manage exceptions via constant supervision and adjustment or just-

in-time intervention. The leadership is optimal to achieve short-term goals (Laohavichien et al., 2009), job satisfaction by rewards, productivity increase via clear instructions (Nguni et al., 2006; Paracha et al., 2012). However, it is limited in creativity, loose and shallow leader-followers relationship (McCleskey, 2014), low engagement due to one-size-fits-all criticism, and situational contexts disregarding (Yukl, 1999; Yukl & Mahsud, 2010). Transactional leadership focuses on the exchanges that occur between leaders and followers (Bass 1985; 1990; 2000; 2008; Burns, 1978).

#### 2.3.4. Ambidextrous leadership

Ambidextrous leadership is a recently introduced term to characterize a special approach to leadership that is mostly used in organizations. It refers to the simultaneous use of explorative and exploitative activities by leaders. Exploration refers to search, risk taking, experimentation, and innovation in organizations, whereas exploitation has to do with refinement, efficiency, implementation, and execution. Successful ambidextrous leaders must be able to achieve the appropriate mix of explorative and exploitative activities, unique for each organization, that will lead them to high firm performance outcome (Rosing, K., Frese, M., & Bausch, A. (2011).

Within an organization, organizational ambidexterity and ambidextrous leadership are two different concepts. According to researchers, different organizational levels may need different behaviors on behalf of individuals to manage ambidexterity, as ambidexterity management is important in a different degree for each level. If, however, leaders manage to achieve the proper balance of explorative and exploitative activities at their level, then ambidexterity may effectively penetrate at the lower levels of their organization (Lubatkin, M. H., Simsek, Z., Ling, Y., & Veiga, J., 2006.

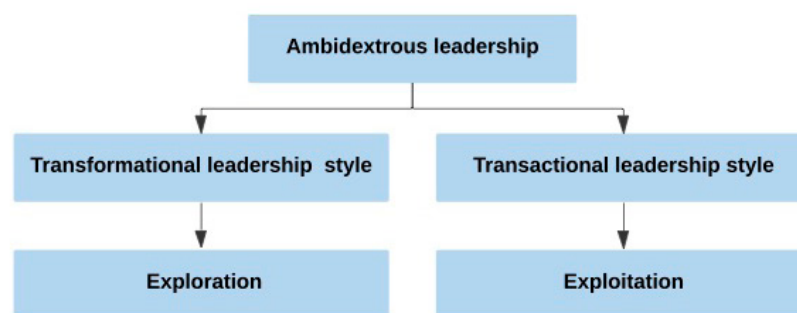


Figure 1. Ambidextrous leadership concept (Kassotaki, 2019)

#### 2.4. SMEs in crises

Leadership emerged in the pandemic as an imperative factor to reduce loss and encourage technological changes to create innovation which is crucial to survive. When the pandemic covered its shadow, most of the consumers started to go online after the stockpiling phase and during temporary and permanent lockdowns. According to (Baldwin, R., Tomiura E.; Baldwin, R., Di Mauro, B.W., 2020), even in countries having moderate and lower income per capita, the internet users started to shift to online shopping and these shopping experiences incorporate some

basic industry products like textiles and leisure tools as well as consumer goods. This shifting consumption demand was observed in Japan as well at the beginning of the pandemic (Watanabe, T., 2020). Yet, as most of the consumption spending has already been maintained online in Japan, higher devastation has been waiting for services demand due to Covid-19.

While people focused on their daily consumption, manufacturing industries got affected negatively even in these few months. Demand loss accompanied by excess supply led to lower prices as an instance in household appliances, all sort of vehicles, textiles, etc. Most of the manufacturing industries, like car manufacturing in Europe, those purchase intermediaries are in loss apparently as well and tendency to save in exchange for spending has been rising all over the world (Baldwin, R., Di Mauro, B.W., 2020). Therefore, as awaited, the lockdown enforcements and declining demand are apparently leading to downsizing in all these industries. So, reducing prices are expected to lead stagnation and reduce the economic worth everywhere. In accordance, declining prices, including the global oil prices, will not mean more industrial gains. Yet due to shrank services demand, incorporating retailing, tourism, aviation and leisure, unemployment came into agenda mainly in services dependent economies irrespective of governmental or municipal supports. Unfortunately, the cyclical impact of rising unemployment seems to reduce all interior and international trade opportunities due to falling income and negatively shifting demand for most products (Mallory, M., 2020).

Finally, the macroeconomic effects should be considered shortly. The global income was estimated to reduce by 6.7 per cent in 2020 based on 2019 figures (McKibbin and Fernando, 2020). Besides, social welfare spending, which is a must, seems to affect fiscal balances and national budgets. The programmes announced to support by many countries referred to 5 per cent of national budgets on average (Wyplosz, J., 2020; Baldwin, R., Tomiura E.; Baldwin, R., Di Mauro, B.W., 2020). Besides, some projections made by international organisations are overwhelming as well. ILO (International Labour Organisation) estimated 10.5 per cent job deterioration for the second quarter of 2020 due to Covid-19, meaning loss of 309 million full-time jobs. The previous quarterly estimate was 195 million and the estimated unemployment rose by almost 60 per cent by the mid of April 2020 (ILO, 2020). In addition, it was noted that 81 per cent of employers and 66 per cent of self-employed enterprises got affected by the lockdown measures. The IMF (International Monetary Fund) projected a 3 per cent reduction in global output for 2020 in January. Yet, in the mid of April 2020, the expected negative growth rate shrank to – 6.3 per cent, which is a huge declination in a quite short time period (IMF, 2020). In the same report, per capita income is expected to downsize by 4.2 per cent on average, with the most severe declination in the advanced economies by 6.5 per cent. Accordingly, many economic policies should be developed in a short time and should be incorporated against the crash induced by Covid-19.

Small businesses are likely to be adversely affected, as they tend to be more concentrated in sectors that have been directly affected by the Covid-19 responsive measures (e.g., retail and services) and are typically more credit constrained than larger businesses (Cao & Leung, 2020; Kumar & Francisco, 2005). Importantly, small businesses comprise most companies in the economy and are responsible for a substantial share of employment (Humphries et al., 2020). By early 2020, 561 organisations bankrupted in the United States with 51 retail businesses (Miller &

Berk, 2020; Danziger, 2020). The figures have been rising throughout the years 2020 and 2021. In addition, due to social distancing, lockdowns, and quarantine, the changes in the consumption patterns and supply chain difficulties have been creating economic stresses around the world. These social restriction strategies additionally increase unemployment and business closures making social divergence more obvious (Blustein et al., 2020; Nicola et al., 2020; O'Connor et al., 2020).

In reality, SME(s) are less likely to be prepared, and the local economy supports for them are weak too (Han & Nigg, 2011). Sadly, SME(s) are vulnerable equally to five global risk categories (Asgary et al., 2020) – economic risks, environmental and disaster risks, geopolitical risks, societal risks, and technological risks, which are defined by World Economic Forum (WEF, 2021).

There are many reasons to explain the SME(s) vulnerability—weak cash flow and financial structures, being too dependent on external resources, lack of flexibility in downsizing, lack of resources and competencies, lack of business continuity strategies, risk management, and crisis management, lack of recovery plans; and most of SME(s) do not have sufficient resources, and competencies to expand on those factors (Yuwen et al., 2016; Asgary et al., 2013; Leopoulos et al. 2006; Marks & Thomalla 2017). And as being predicted, the Covid-19 has damaged and disrupted the supply chain in which SME(s) are embedded. Recently, a survey of 132 countries from the International Trade Centre (2020) expresses the fact that two-thirds of SME(s) have been affected by the COVID-19 pandemic, and some of them have been dealing with the risk of permanent closure.

Besides risks, on the other hand, opportunities may come from this disruption. The current situation triggers changes in customer behaviour, market balance and supply chains (Carvalho, Bonzo, & Zenaide, 2020; Ceylan, Ozkan, & Mulazimogullari, 2020), and digital technologies can help them to take advantage of this window of opportunity. Even though it is probably out of necessity in most cases, it is no coincidence that this crisis has accelerated the adoption of digital technologies by approximately 5 years in 8 weeks (Baig, Hall, Jenkins, Lamarre, McCarthy, 2020). Butt (2020) states that this pandemic has highlighted digital transformation in such a way that organizations now feel the adversities of not having embraced it earlier.

## **2.5. How SMEs deal with crises**

Leadership is critical in the normal operation of businesses. In a time of crisis, it becomes imperative to drive the businesses through the tough time. The imperative role of leadership becomes more obvious when many leaders fail to save their targets, jobs, and organisations expressed via the figures listed above. What is exposed behind those numbers is the fact that leaders are not ready to deal with a crisis at scales and their complexities. The challenges of leadership in global hazards such as the Covid-19 pandemic include employee performance and turnover (Bader et al., 2019), hostility and discrimination work environment (Bader et al., 2018), physical and mental health, work-life balance concerns (Faeth & Kittler, 2017; Bader et al., 2019).

Over the years, many researchers have conducted research to find out practice patterns. Kouzes and Posner (2012) uncovered five common practices to get extraordinary objectives done in organisations. They include modelling on the way, creating a shared vision, challenging processes, enabling followers to act, recognising, and celebrating values. These attributes are highly connected to transformational leadership with more concrete instructions of models and examples to direct

subordinates. There are many challenges for an employee to manage during the pandemic from employees' perspectives. They include traumatic experiences, disaster complexity, work culture flexibility, and job security. Emotional and interpersonal support needs to be exchanged between leaders and employees to enhance their relationship. In the following sections, we will discuss practices that may enable the development of a solid leaders-followers relationship to drive them through the unprecedented times of crisis.

During uncertain times, as the economy suffers, morale gets low, and jobs get insecure (Mani & Mishra, 2020). Maintaining frequent engagement with employees and boosting their motivation are demanding behaviours in the pandemic. A solid leader-follower relationship is created by constant communication, which is an integral element of crisis management, can increase job satisfaction and employee retention (Eisenberger et al., 2002; Anderson, 2021). Listening regularly, taking subordinate views, employee well-being concern are parts of the core responsibilities of leaders in the pandemic, which would sharpen leader emotional intelligence to create more empathetic responses for employee voices and sharing.

There are four competencies suggested by McGuinness (2020) during a crisis – positive reinforcement, anticipation, people first, strong-minded adaptability. The positive mindset will create empathy or understanding feeling for employees that their stress, health concerns, personal situations are acknowledged. Anticipation is the ability to catch misinformation and be aware of changes. People first thought is about raising employee contribution values. Lastly, a decision should be made with high certainty with priorities, but not impulsiveness.

There are key factors in communication strategy during a crisis (Orangefiery, 2020).

(i) Keep information transparent. This includes what they know and what they do not know. It is not a time of integrity priority (Bogusky-Halper, 2020)

(ii) Active listening to employee difficulties of situations without prior judgement.

(iii) Constant provision of information and resources to deal with stress and anxiety problems, or in general physical and mental health. Help employees stay safe and healthy.

(iv) Encourage collaborations storytelling. They are effective to manage employment turnover and create a highly connected relationship between employees and between employees and leaders. (Beauchamp et al., 2021)

After the 2020s, the work cultures are being changed increasingly from onsite (Felstead & Henseke, 2017) to utilities global workforce, better management of costs, and provide global services. Towards the pie of this trend, the service industry takes the biggest part with 17 per cent of the workforce working remotely, followed by health care (12 per cent), finances and insurance (10 per cent), manufacturing (8.5 per cent), and education (7.5 per cent) (He et al., 2020). Therefore, leadership needs to be changed to embrace the virtual environment. However, e-leadership is not a completely new kind. In fact, many characteristics from generic leaderships can be applied to e-leadership, plus the ability to manage various communication platforms (Liu et al., 2020). The addition extended from a normal leader is the ability to choose the right communication tool, given a communication context, or even adaptability of culture varieties, but showing leadership e.g., positive feedback, trust development, inspiration via these virtual environments.

Transformational leadership might not necessarily directly affect employee performance in the Covid-19 pandemic, but it creates a positive effect on the readiness to change, which is a mediator to create a significant effect on employee performance (Novitasari et al., 2020; Zaman 2020). This leadership, combined with transactional leadership, increased work satisfaction to university lecturers in Jakarta (Azizaha et al., 2020).

On the other hand, Brandebo (2020) discouraged the destructive leadership style. The study also analyses Australian Prime Minister Scott Morrison's behaviours to understand what triggered the leadership behaviours from psychological aspects. Another example is when President Trump (Lipton et al., 2020) threw a temper to public audiences to deny the danger of the virus and decline the fact that the nation was facing a crisis that took thousands of American lives. The impact of the leadership style is on the incapability of performing subordinates' jobs, and a lack of job satisfaction after, or even worse when affecting the well-being of a work environment, e.g., job stress and emotional exhaustion as well as disconnections of team members, and they can exclude themselves entirely from business common goals to overcome the crisis (Khan et al., 2019; Schyns 2013).

To survive the crisis, SMEs are required to create a risk profile and management strategies for them. It is also imperative to foster their business resiliency as the business world has changed to the new context with the emergence of digital transformation which is particularly suitable with the time of Covid-19 and even when the world returns to the new normal. There have been studies examine the relationship between leadership styles and business resiliency and business innovation (Dileep Baburao Baragde (2021; Appelbaum, S. H., Degbe, M. C., MacDonald, O., & Nguyen-Quang, T. S., 2015; Coutu, D. L., 2002; Usdin, L., 2014; Oluremi B., Ayoko, 2021). One of the leadership styles, ambidexterity leadership employs opening leader behaviours to encourage employees to proactively seek novel ideas and solutions and then shift to closing leader behaviours to encourage workers to implement these ideas and solutions (Luu, 2017; Rosing, Frese & Bausch, 2011). Accordingly, ambidextrous leadership has three elements: (i) opening behaviours that encourage exploration, (ii) closing behaviours that encourage exploitation, and (iii) flexibility to temporarily switch between the two as the situation requires (Martinez-Climent, Rodriguez-Garcia & Zeng, 2019). Based on the social distancing impact of Covid-19 on the sustainability of SMEs, an ambidextrous business leader must be flexible in leading change by simultaneously exploiting the current business opportunities and exploring the future business opportunities in the post-Covid-19 period. Therefore, ambidextrous leadership can promote the proactiveness, innovativeness and risk-taking capabilities of the workforce (Luu, 2017; Martinez-Climent et al., 2019). In short, ambidextrous leadership combines opening leader behaviours, such as promoting creativity, and closing leader behaviours, such as accomplishing objectives and adhering to norms (Martinez-Climent et al., 2019). The proposed chapter holds that the sustainability of SMEs during the pandemic is largely dependent on the ability of business leaders to transform their enterprises into ambidextrous SMEs. For example, apart from the social distancing negative impact of Covid-19 on SMEs, it also creates several opportunities in the global business environment for SMEs that are willing to be innovative in meeting their business goals and objectives.

To conclude, there is evidence that the lack of leadership qualities in times of crises and disasters (e.g., Covid-19 pandemic), is often associated with poor disaster response (Valero, Jung,



and Andrew, Reference Valero, Jung and Andrew2015). Therefore, SME leaders must be very adaptive to the situations. Ambidextrous leadership seems to be a suitable style for SMEs when tackling with challenges or embracing opportunities in the time of pandemic. Ambidextrous leaders may combine transformational and transactional leadership styles to a specific situation to achieve their business goals.

### 3. METHODOLOGY

#### 3.1. Data collection

In this research, we utilize the inductive analysis technique over previous studies conducted at the global and selected national levels. A good number of materials will be retrieved and processed through a systematic review, which is a type of secondary research that focuses on reviewing the literature through rigorous, explicit, and reproducible procedures, oriented to answer a relevant research question. In this sense, we describe the procedures in Table 1. The research uses a varied combination of keywords applied to different databases and search engines. The keywords will be searched in the title and abstract of the articles. I also access to open-access materials, peer-reviewed journals from the fields of study and white reports from consolidated organizations. To find the needed information, I include different kinds of sources, and re-execute the search steps to verify the publication of newest and important articles in both scientific and business publications. I use research protocols such as Google Scholar and the ResearchGate to get access to national and international publications, such as those by Springer, Scopus, Elsevier, and others. Because of the current pandemic, some restricted materials are open to help Covid-19 research, which are very helpful.

**Table 1. Systematic review**

Parameter	Value
Research questions	What are the challenges and opportunities for the SMEs during time of crisis? How are they responding to the crises such as Covid-19? How can leadership styles support SMEs to handle extreme situations?
Objectives	To find response actions from SMEs to Covid-19 and crises in general; to obtain insights about opportunities and challenges for SMEs; to identify best leadership styles that suit SMEs in response to Covid-19 and implications to other crises.
Combination of keywords (in title or abstract)	"SMEs"; "Covid-19"; "response"; "opportunities"; "challenges"; "digital transformation"; "strengths"; "weaknesses"; "leadership styles", "business resiliency"
Search engines	Google Scholar, ResearchGate, SCImago
Virtual bases	Springer, Scopus, Science Direct (Elsevier), McKinsey, IMF, WB, ILO

Type of materials	Scientific papers, white reports, conference papers, open-access materials
Year of publication	Any/prioritize 2020 and 2021
Selection criteria	1. Preference on peer-reviewed journals (refereed or scholarly), from fields of study 2. Search for keywords in title and abstract
Data extraction method	Text/content analyses: Focus on objectives and main results
Search refinement	Keywords were searched multiple times to include newest publications (because the pandemic is still going on). Reviews of research results were also made.

Additionally, we adopt a qualitative technique to test the hypothesis and to address the research questions. As a result, we plan to conduct a direct interview plus an online questionnaire to retrieve more practical data for research analysis.

Accordingly, a direct interview will be applied to the leaders and mid-level managers of 30 small and medium-sized enterprises operating in the food and agribusiness sector of Vietnam, online questionnaires will also be sent to investigate responses of leaders and mid-level managers of additional 30 SMEs in the same sector. The selection of SMEs for the interviews and online investigation is based on a simple random sampling technique. We select these enterprises because they offer numerous advantages over traditional approaches, including being less expensive, more adaptive, having a higher response rate, as well as being rapid and simple.

To get the information from direct respondents, we use the standardized (open-ended) interview to ask the respondents the same 10 questions providing them freedom to choose how to answer the questions, i.e., they may not choose “yes” or “no” or “provide numeric rating”. We expect this type of interview will facilitate faster interviews and the data collected will be more easily analysed and compared.

As for the online approach, we use Likert scale questions to formulate a self-administered questionnaire which includes 20 specific questions and is divided into 4 parts: (1) demographics (including gender, age, marital status, education, and working experience); (2) opportunities and challenges that Vietnamese catering SMEs are facing related to the impact of Covid-19; (3) leadership styles taken to tackle the negative effects (4) supports that Vietnamese catering SMEs wish to have to deal with pandemic situations. A total of 90 questionnaires were sent to leaders and managers of 30 SMEs. For each SME, participants were select based on cluster random sampling method. Respondents were asked to be realistic regarding questionnaire and would be assured that their information would be used only for research purpose.

### 3.2. Data analysis

The survey utilized descriptive analysis to clarify the fundamental aspects of the data. Descriptive statistics were frequency, percentage, means, standard deviations, reliability coefficients, and zero-order correlations. To assess the reliability and internal consistency of the data, the Cronbach Alpha test was performed. Descriptive statistical data was used to explain the

samples in a legitimate and relevant way by representing them in a numerical form. Moreover, cross-tabulation was also used to classify data into mutually exclusive categories.

#### **4. RESEARCH FINDINGS**

Through reviewing process, we discovered following research findings that may answer the research questions:

##### **4.1. Challenges for SMEs during Covid-19**

Beside the traditional risks such as economic risks, environmental and disaster risks, geopolitical risks, societal risks, and technological risks. In the situation of Covid-19, SMEs must encounter emerging menaces:

- (i) Disruption of business activities leading to business downsizing or even business closure due to the continuous lockdowns and social distancing.
- (ii) Demand slump when the customers pay less for goods and services due to less incomes. In addition, consumers change their purchasing habit when shifting towards online shopping.
- (iii) Credit crunch as the commercial banks apply tight lending requirements.
- (iv) Competition becomes even more fiercely when the market is narrowed and the demand declines sharply.
- (v) Their lack of resources and competencies becomes even worse making their business resiliency be even weaker.

##### **4.2. Opportunities for SMEs during crises**

- (i) Changes in customer behaviour, market balance and supply chains and digital technologies can help them to take advantage of this opportunity.
- (ii) Covid-19 is a real test to examine SMEs' resiliency, thus, leaders must revisit their strategy and develop in a new and more sustainable way.

##### **4.2. How SMEs are responding to Covid-19 as a typical crisis**

When Covid-19 is still active at global level, and we cannot avoid it in a couple of years. The best practice is to harmonize the situation. SMEs must take measures to obtain their business performance while ensuring external factors under control. In this research, we found an emerging trend that most of SMEs are trying to embrace which is the adoption of ambidextrous leadership to promote the application of technologies to their business activities. This could be achieved by quickening up digital transformation. In details, to pursue goal of ambidexterity, ambidextrous leaders must ensure:

- (i) Preparedness and planning
- (ii) Supported with information and data
- (iii) Adaptive and coordinated
- (iv) Responsibility and transparency

(v) Authenticity: ethical and values-based leadership

Another important thing for SME managers to keep in mind is the building of trust and promoting business resilience during the times of crises and uncertainties. Hereby are what most SMEs are pursuing:

(i) Keep information transparent. This includes what they know and what they do not know. It is not a time of integrity priority (Bogusky-Halper, 2020)

(ii) Active listening to employee difficulties of situations without prior judgement.

(iii) Constant provision of information and resources to deal with stress and anxiety problems, or in general physical and mental health. Help employees stay safe and healthy.

(iv) Encourage collaborations storytelling. They are effective to manage employment turnover and create a highly connected relationship between employees and between employees and leaders. (Beauchamp et al., 2021)

## 5. CONCLUSION

Covid-19 is a real but undeniable nightmare for SMEs because of their natural vulnerabilities. If we are unable to terminate the pandemic soon, we must keep it under control. SMEs leaders must become more prepared and adaptive with predictable situations, they must adopt the most suitable leadership styles composing transactional and transformational leaderships, in another words, the ambidextrous leadership. What SMEs should do now is to raise their awareness of challenges and opportunities under new situation. When consumption behaviour changes to online shopping and governments apply lockdowns or social distancing, they must adopt technological approach or leadership must become e-leadership. This could be obtained by fostering digital transformation within each business organization.

In addition, the building of trust and sustaining it within SMEs also plays an important role, as it is needed for transformative, collective action in times of uncertainty, such as during a pandemic.

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# MARKETING MANAGEMENT OF MINIMART CHAINS IN HANOI

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**Abstract:** *In recent years, Vietnam retail market and business activities of minimart chains in Vietnam, especially in Hanoi, have made significant progress, with relatively stable growth rate. However, many supermarkets after a period of operation had to close due to inefficient business. Many experts believe that: “Marketing is one of the important tools to help businesses develop sustainably”<sup>[1]</sup>. Therefore, in order improve to business results for minimart chains, it is necessary to improve the effectiveness of marketing management for these supermarket chains. The article focused on clarifying: (1) Basic theories about minimart chains and marketing management at minimart chains; (2) Assessment of the current status of marketing management at minimart chains in Hanoi; (3) Proposed solutions to improve the efficiency of marketing management for minimart chains in Hanoi.*

*Keywords: Minimarts, Marketing management, quality improvement of marketing management*

## INTRODUCTION

Minimart chains are essentially convenience stores. It is “*a store with extended opening hours and in a convenient location that offers a limited range of vegetables and consumables*”<sup>[5]</sup>. Minimart plays a particularly important role in modern society because of its utility. However, not every minimart can stand firm in the fiercely competitive market. Therefore, improving business results for minimarts is one of the issues of concern for both retailers and professionals and functional management units. In order to improve the performance of minimarts, it is necessary to improve the efficiency of marketing activities at these supermarkets. Therefore, the paper wishes to assess the current status of marketing management at minimart chains in Hanoi so that recommendations can be made to further improve the quality of marketing management for supermarket chains. mini market in Hanoi.

## 1. BASIC THEORY OF MINIMART CHAINS AND MARKETING MANAGEMENT AT MINIMART CHAINS

### 1.1. Minimart chain and characteristics of minimart chain

Minimart is a type of retail that shows the development trend of modern commerce, in line with the development trend of the retail market as well as the needs of today’s consumers. In essence, minimarts are convenience stores. Therefore, minimarts are understood and defined according to

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different criteria depending on each market area, each country, or each economy. According to P. Kotler and K. Keller, a minimart is a “*small residential store, usually open 24/7, with a limited product line consisting of convenience products and takeaways*” [4].

In Vietnam, policy makers, experts, and retail business managers believe that a minimart is a type of small-scale store specializing in retailing essential goods and providing essential services, serving the daily consumption needs of the population with maximum convenience. The identification criteria include “*minimart open for sales more than 12 hours/day, open for more than 340 days/year, with a business area from 50m<sup>2</sup> to 120m<sup>2</sup> with business items including food (food) fresh produce, tech food), some household goods, groceries and basic necessities, with a buffet/self-service approach*” [6].

From the above points of view, we can draw the following conclusion: Super minimarts are small-scale convenience stores located in residential areas that are open for more than 12 hours a day, providing service items. daily needs for consumers with self-service vending. According to P. Kotler&K. Keller, retail chain is “*Two or more stores that are owned and controlled, buy and sell centrally, and trade in similar lines of goods*” [3]. Thus, a minimart chain is a system of convenience stores with 2 or more similar stores with the same brand name and similar business characteristics, i.e. having the same viewpoint and type of business. business; organized, managed and operated according to a unified orientation and content from a central office.

#### *Features of the minimart chain*

*Firstly*, the minimart chain must have two or more stores. Also has a similar portfolio of business products and customer services and is sold at a uniform price.

*Secondly*: The list of business products is usually reputable brands with high demand in the market. Trading items are mainly food products (fresh food, processed food) and some consumer industrial goods such as: groceries, stationery, household appliances, detergents and other products. other popular products. The volume of goods each import is usually quite large to meet the demand for the whole chain.

*Thirdly*: Member minimarts are often designed and operated with the same planning, business technology and retail and customer service methods; Usually open 24/7. The store’s display and atmosphere are usually friendly; Minimarts are usually distributed at convenient locations for buyers.

*Fourthly*: The supermarkets in the chain often have the same owner or are franchise stores that are organized, managed, and controlled centrally from a common coordination center. Different minimart chains have different characteristics. Minimart chains are often classified according to criteria such as the size of the parent company; retail item range; nature, characteristics and planned market, ...

## **1.2. Marketing management at minimart chains**

According to the American Marketing Association, “*Marketing management is the process of planning and executing that plan, pricing, promoting, and distributing goods, services, and ideas to create exchanges with groups of people. objectives, satisfying the objectives of the customer and the organization*”. Thus, “*Marketing management is a process, including a system of activities*



*and solutions that are closely related to each other. These activities involve goods, services, ideas and are based on the exchange of benefits between the business and its customers. The purpose of marketing management is to satisfy the needs of the parties involved in the market exchange.* [2]

Thus, in general, marketing management includes activities to ensure that the marketing activities of the minimart chain take place effectively. It is a process in which the objectives to be achieved are clearly defined, the resources and solutions to be implemented as well as the monitoring and adjustment work to make the marketing strategy successful.

Marketing management plays a very important role for the minimart chain. As a division strategy in the overall strategy of a retail business, an effectively implemented marketing strategy not only helps the supermarket chain adapt and best exploit market opportunities, but also has a positive effect. orient and link other strategies such as: human strategy, financial strategy and technical - technology strategy.

Marketing takes the satisfaction of customers' needs as the goal and motivation of every business. Marketing management is not aimed at stimulating demand in a general way, but in fact managing demand with ability to pay. The top goal of marketing management in businesses in general and minimart chains in particular is to satisfy customer needs with quality and value. To attract customers to buy their products, companies need to ensure that they add more value to customers than competitors' products. According to the value-based marketing approach, the marketing management of the minimart chain includes two main contents: strategic marketing management and tactical marketing management.

### **1.2.1. Strategic marketing management**

According to P. Kotler, the strategic marketing of minimart chains can be understood as “*combining management of marketing information and selecting target markets, proposing and positioning value propositions to target market*” [7]. In this view, strategic marketing includes the following basic contents: Analysis of market opportunities; Market Segmentation, Target Market Selection and Product Positioning

(1) *Analysis of market opportunities:* To analyze and evaluate market opportunities, minimarts need to have an effective marketing research and information system. When evaluating business opportunities, marketing managers need to collect full information about the company's marketing environment, including the macro environment and the micro environment. At the same time, it is necessary to clearly define who your products are selling to? On which market? Consumer market or institutions? What are the purchasing characteristics of these subjects?

(2) *Market segmentation and target market identification:* After assessing and analyzing market opportunities, Marketing managers conduct market segmentation according to segmentation criteria and techniques. option. On the basis of the divided market segments, the marketing manager needs to determine the most suitable market segment with the capacity in which he has an advantage. Also known as the target market.

To select the target market, it is necessary to measure and evaluate the attractiveness of each market segment and determine the appropriate target market selection plan.

(3) *Products/Price Positioning*: There are often many different retailers in the target market. To improve business efficiency, it is necessary to conduct positioning. The essence of positioning is to develop a strategy to differentiate and define the position for the target market. The result of positioning is the basis for marketing managers in minimart chains to build tactical marketing.

Thus, strategic marketing management includes management of information systems and marketing research, management of analysis and evaluation of market opportunities, management of market segmentation and selection of target markets. Finally, the location management.

### **1.2.2. Tactical marketing management**

If strategic marketing has the central task of selecting and positioning value, tactical marketing includes activities related to the deployment, creation, distribution, communication and realization of this value in the market. the target field matches the positioning result.

Tactical Marketing includes activities to materialize and realize strategic marketing on a specific target market. That means for other target markets, there will be different combinations (tactics) of Marketing mix tools. In essence, tactical marketing management is the process of managing all stages from selecting values, implementing values and communicating the values that the minimart chain provides to its target customers. This means, the value provided to customers is the “output” and the focus of tactical marketing management. The value of customer supply is not only a crystallized measure of the effectiveness of the management apparatus, but also a direct basis for determining the effectiveness of the customers of marketing management.

According to P. Kotler (2008) <sup>[4]</sup> and P. Kotler & K. Keller (2013) <sup>[5]</sup> the tactical marketing decisions of a retail business include:

*Product portfolio management*, including decisions about the width, length, depth, and density of the portfolio. For retail businesses, this is the most important management content in tactical marketing management. Because of the item structure, Product quality and decisions on how to develop new retail items are important in attracting target customers. According to P. Kotler, product quality is a term that denotes “durability, reliability, ease of use, ease of repair, accuracy and other valuable attributes of a product mix”. [4]. “It means that product quality is expressed through the technical quality of the product and the functional quality of the product and is measured according to the perception and evaluation of the target customer” [2]. On the basis of the decision on the list of business products, the businessperson will make decisions on the selection of suppliers, brands, ... to import goods.

*Retail price management*: Selling price management is a complex and delicate job of tactical marketing management, which has a direct impact on the perceived value of customers and the effectiveness of the chain’s marketing apparatus management. In order to effectively manage selling prices, it is necessary to set prices according to customer orientation, i.e., approach pricing according to the value that customers accept instead of pricing according to the retailer’s business goals. Therefore, when pricing, it is necessary to stick to the results of the chain’s positioning in the target market.

*Customer service management:* For commercial enterprises, customer service is considered as a type of product of the process of providing value to target customers. the “utility effects” of selling goods to customers. Customer service management in minimart chains includes: Determining service types, service levels and service delivery forms.

*Location selection and store distribution density:* In essence, minimarts are convenience stores open 24/7, serving the daily needs of the population. Therefore, when choosing the placement of goods, marketing managers should pay attention to comply with the following basic requirements:

- The location of the store must be convenient for consumers to shop and arrange the display of goods for employees.

- Store density should not be too thick or too sparse. If the store density is too thick, business efficiency will decrease due to high costs. But if it is too sparse, the ability to meet demand will be reduced and the risk of competitors will appear. Therefore, the density of stores must ensure both improving competitiveness and ensuring customer service efficiency of each supermarket as well as of the whole chain.

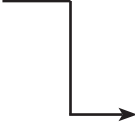

*Display and in-store advertising decisions.* Displaying goods in each supermarket should ensure the following principles: easy to see, easy to get, easy to choose and convenient for customers to travel. First-in products must be displayed outside, new items inside to ensure first-in, first-out. Products sold to children should be placed on the shelves below. Products that complement each other in consumption are displayed close together to stimulate consumption. Coordinate the colors between the displayed goods to create a distinct impression and positive impact on customers.

Local advertising and store atmosphere are highly valued in stimulating consumption. Appropriate communication and offers to help customers realize the value and level of satisfaction of business items, especially with new products. Marketing managers of minimart chains need to realize that the effectiveness of promotional communication at each store depends on the effectiveness of integrated communication tools and forms, in which the key point is the combination. effective between display and organization of customer touchpoints on-site to introduce and demonstrate products on sale.

*Atmosphere management at the store.* According to P. Kotler (2008), “the store’s atmosphere that is designed in accordance with the target market will tempt consumers to buy”[4]. The store atmosphere is a shopping space, a convenient experience created from the reasonable planning of the business premises and the activities of on-site product experience, event organization and direct marketing are implemented, thereby entice customers as they shop at the store.

## **2. CURRENT STATUS OF MARKETING MANAGEMENT AT MINIMART CHAINS IN HANOI**

From the above theoretical bases, it shows that the effectiveness of marketing management is determined by two main factors: strategic marketing management and tactical marketing management. To assess the current status of marketing management at minimart chains in Hanoi, the authors build a research model described in Figure 1.

<b>Strategic Marketing Management</b> - Analysis of market opportunities - Segmenting the market, identifying the target market - Position the supermarket in the market	
	Effective marketing management of minimart chain
<b>Tactical Marketing Management-</b> - Product portfolio management - Retail price management - Choosing the location and density of store distribution - Customer service management - Management of display and advertising at the store - Managing the atmosphere at the supermarket	

**Figure 1 Marketing management research model of minimart chain in Hanoi**

The system of minimart chains in Hanoi City currently has 30 domestic and foreign brands, typically: (1) Circle K minimart chain (116 member store) distributed in 11 districts and Thanh Tri District; (2) Shop&Go minimart chain (17 member store) is distributed in 5 Districts; (3) Vinmart+ minimart chain (502 member store) is distributed in 12 districts and 5 districts including Thanh Tri, Dong Anh, Thanh Oai, Hoai Duc, Gia Lam; (4) Co.op food minimart chain (10 member store) is distributed in Cau Giay District, Thanh Xuan, Nam Tu Liem where the new urban area is located; (5) Haprofood minimart chain (30 member supermarkets) are distributed on 4 streets of old inner city districts and at urban markets; Guardian minimart chain (18 stores specializing in the sale of health and beauty care products and services) is distributed in the Central District. However, within the scope of the research paper, the authors of a case study at 3 chains have similar business items: Circle K, Vinmart + and Haprofood. Through interviewing managers and surveying 300 customers of 3 minimart chains mentioned above through 37 questions related to 9 variables in Figure 1. The authors draw the following conclusions:

All three chains are value-oriented marketing management for customers (value-oriented) and are interested in strategic marketing management as well as tactical marketing management when there are big changes in the market. retail. However, only the Vinmart+ chain has its own marketing strategy. The remaining two chains are mainly strategic and tactical marketing activities integrated in the business strategy.

All 3 minimart chains have specific plans and methods to grow the number of members in both new opening and franchising ways. Management focuses on improving the quality of business products, customer service and pricing, considering it as the core factor that makes a difference and enhances the value provided to target customers.

### **2.1. Major limitations in marketing management of minimart chains in Hanoi**

Although there have been positive changes, marketing management activities at minimart chains in Hanoi are still quite modest, even weak. The strategic marketing management has not yet brought about high efficiency (2.99 points - Table 2), some contents of strategic marketing

management have not been implemented on the basis of market and customer research. mainly based on experience and still subjective, not suitable with the actual situation of the market, so the quality of implementation of the content of tactical marketing is not really suitable, so the business performance is not as expected., especially when the market has big fluctuations due to the covid pandemic. Specifically:

*For strategic marketing management*

**Table 2. Assessment results of strategic MKT management**

Observed variables	Rating level	
	Medium score	standard deviation
Analyze market opportunities	2.96	0.583
Market Segmentation	3.01	0.591
Identify the target market and the attractiveness of each market segment	3.08	0.596
Establish and position the supply value for customers	2.94	0.577
<b>Total</b>	<b>2.99</b>	<b>0.587</b>

(Source: Processing survey data using SPSS 20.0)

- Analysis and assessment of market opportunities are still inadequate (only 2.96 points). Activities of research, investigation, analysis of markets, customers, competitors, ... are still unrealistic, not methodical and unscientific.

- Value-oriented marketing management requires minimart chains to enhance perceived value from target customers. However, the market segmentation is not reasonable (reaching 3.01 points) and the target market identification is not really correct (reaching 3.08 points); have not properly identified the characteristics of the market and the wishes of the target customers and the strengths and weaknesses of competitors as well as other influencing factors, so the selection, establishment and positioning of the value provided to customers goods are often not suitable. Each minimart chain has not made the necessary difference with its own specific characteristics and identity compared to other types of convenience stores.

*For tactical marketing management*

Due to the above limitations of strategic marketing management, the effectiveness of tactical marketing management is still inadequate (see survey results in Table 3).

**Table 3: Tactical MKT management evaluation results**

Observed variables	Rating level	
	Medium score	standard deviation
Analyze market opportunities	3.12	0.602
Market Segmentation	3.03	0.59 1
Identify the target market and the attractiveness of each market segment	3.08	0, 601
Establish and position the supply value for customers	3.09	0.5 88
Analyze market opportunities	3.05	0.592
Market Segmentation	3.16	0.603
<b>Total</b>	<b>3.09</b>	<b>0.591</b>

(Source: Processing ) li evil Whether investigated using SPSS 20.0)

- Management of the business product portfolio is not good (reaching 3.12 points). Business items have not really met the daily needs of target customers. The list of business products is not diversified, the quantity and quality of business products do not meet the requirements, there is still the phenomenon of selling products of poor quality or expired to customers. The structure of business items is unbalanced and diversified; New items are not developed often, or if so, the quantity is still low.

- Inefficient selling price management: In order to set retail prices based on value for customers, it is necessary to take advantage of the advantage of cost reduction/unit to compete effectively on price. However, this is not done well in most minimarts. Selling price management has not made a clear distinction and value positioning with customers (The average score according to customers' assessment in the survey results is only 3.03).

- Management of shopping space and atmosphere in minimarts is still weak (reaching 3.05 points). The elements create a shopping environment, convenient and civilized experience to attract, attract and develop customers. Place of order and distribution of points of sale are not appreciated, not convenient for customers (3.09 points)

- Customer service management is not methodical. Customer service quality is rated very low (in terms of customer service, the survey results show that the average score is only 3.08). Most of the points of sale lack pre-sale service, value-added services and low quality of customer service.

- Management of atmosphere and customer experience (3.16 points). The atmosphere of the store is not attractive, has not attracted customers to experience and shop properly

## **2.2. Causes of limitations**

The limitations in marketing management are mainly due to the following basic reasons:

- The marketing information system with databases is still not synchronized, lacks much research information, marketing surveys and medium and long-term forecast information. The software used in research, investigation and analysis is not modern.

- Management apparatus in general and marketing management have not really met the requirements of chain operation in volatile market conditions. The quality of human resources is still weak, especially the marketing staff in general and the customer service staff.

- Awareness of the role of marketing in minimarts is not high, sales staff have not been trained in sales skills.

- The business environment has complicated developments, economic recession and financial crisis due to the increasing COVID-19 pandemic has directly affected the decrease in income and purchasing power of Hanoi consumers.

- Agricultural products, food and consumer industrial goods are the main business items in the business product portfolio. Therefore, difficulties and inadequacies in investment, development and upgrading of technology have affected the quality and production efficiency of agro-industrial enterprises - the supply of goods for the retail market is limited leading to to increase purchasing cost and reduce import efficiency.

### 3. SUGGESTED SOLUTIONS

#### *Firstly: General solution*

Effective marketing management requires minimart chains to build an effective marketing research and information system. To do so, it is necessary to apply information technology in management and sales. Step by step applying digital technology in business administration in general and marketing management in particular. Only then will the chains integrate information in the whole chain in an optimal way.

Appreciate improving the quality of human resources in general throughout the chain. Training to raise awareness and professional capacity for sales and customer service staff, and especially to improve digital marketing capabilities for marketers.

*Secondly: Solutions to improve the effectiveness of strategic marketing management:* The key point of value-oriented strategic marketing management for customers is that the minimart chain needs to understand the needs, wants and needs of customers. characteristics of customers in the target market. Therefore, in order to plan an effective marketing strategy, it is necessary to attach importance to marketing research activities to choose the right market segmentation criteria. Based on the characteristics of the market segments and identified business goals to clearly define the target customers to serve. With the characteristics and desires of target customers, each chain needs to build a clear positioning strategy to create its own unique identity.

*Thirdly: Solutions to improve the effectiveness of tactical marketing management:* On the basis of identified positioning results. The most important issue for the minimart chain is to have a good management of its business goods portfolio. Determine the right width, length and depth of the list and build a quality standard system to have a basis for choosing a supplier that meets the requirements. Since then, gradually perfecting and improving the quality of business products. Good product management is the premise for effective selling price management. Effective combination of products and prices will ensure that the minimart chain enhances the perceived value of customers.

About the location of the store and the density of the store: a minimart is a business form that meets the needs of the population 24/7. Therefore, the location of the store must be near a densely populated area. It is necessary to develop a set of standards for stores in the chain in terms of location, area, facade, ... This is an important basis for opening a new store or franchising.

The quality of customer service, the arrangement of the display of goods and the atmosphere at the minimarts are the main factors that effectively attract customers. Especially when the chains have similar quality and business product portfolio.

**Conclusion:** When doing business in a dynamic market condition, in order to improve business efficiency, each minimart chain needs to quickly grasp the needs and tastes of consumers and their changes. At the same time, it is necessary to analyze the environmental impacts on the business activities of the chain. From there, have an appropriate business strategy. To do so, minimart chains in Hanoi need to consider their marketing work and improve the effectiveness of their marketing management.

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# ONLINE SHOPPING TRENDS IN THE COVID-19 PASSION

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**Abstract:** *The COVID-19 pandemic is making consumers change their shopping habits, limiting going to crowded places has brought great opportunities for online shopping channels, ordering at home. Many consumers choose to shop online to limit the number of times they have to go to stores to shop in person, reducing the risk of disease transmission. The form of online shopping seems vague compared to this time 10 years ago, but before the outbreak of the Covid-19 epidemic as well as the rapidly developing 4.0 technology in Vietnam, it has led to great changes. affect the daily life and shopping habits of Vietnamese people.*

**Keywords:** *Online shopping; international commerce; technology 4.0*

## OVERVIEW OF ONLINE SHOPPING

According to Wikipedia, online shopping (often called online shopping) is a form of e-commerce that allows customers to directly purchase goods or services from a seller over the Internet using a web browser. Consumers find a product of interest by directly visiting a retailer's website or searching among other vendors using a shopping search engine, which displays the product's availability and price. similar products at different e-retailers. Online shopping allows buyers to contact new suppliers, which cuts purchasing costs and expedites order processing. At the same time, marketers can connect online with customers to share marketing information, sell products and services, provide support services, and maintain existing relationships with customers.

## THE REALITY OF ONLINE SHOPPING DURING THE COVID-19 EPIDEMIC

The line between traditional commerce and e-commerce is blurring as today's consumers seek experiences that combine both types of commerce. Up to 77% of Vietnamese consumers are now aware of shopping activities on social networks. Up to the present time, the level of awareness and acceptance of this type of commerce is highest among consumers aged 18-23. This is also a frequent user of social networks, so it is easy to grasp the commercial features on these platforms According to data collected from a survey in the United States, e-commerce revenue in 2020 increased by 32.2% compared to the same period in 2019, reaching 188.2 billion USD – this figure is partly due to the fact that consumers users have to stay home and shop online due to social

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distancing requirements during the pandemic. Another statistic in the United States shows that 70% of people surveyed shop online more than before the pandemic, of which 36% shop much more online. According to the same survey, the number of people shopping online has increased the most due to the pandemic in countries that previously did not shop online. In Vietnam, according to the 2021 E-Commerce White Paper, the percentage of internet users engaged in online shopping has increased from 77% in 2019 to 88% in 2020.

### **TRENDS OF ONLINE SHOPPING DURING THE COVID-19 EPIDEMIC**

In order to limit travel and serve the shopping needs of customers during the complicated situation of the COVID-19 epidemic, large enterprises and supermarkets also promote the application of technology and purchasing services. from far away. Online shopping is very convenient because you don't have to go to the store, don't have to wait in line to pay like when shopping at supermarkets, shopping centers ... but just sit at home, access the application, choose your items. favorite, quick online payment, diverse products easy to choose and will be delivered to your door with preferential forms. To increase the number of customers shopping, besides implementing product discounts, many stores also support free shipping. Some store owners also register their items on online sales sites such as Tiki, Shopee, Sendo, etc. to make it easier to reach buyers. Online shopping is not only done on major e-commerce sites, but it also appears on other social networking platforms such as facebook, youtube, etc. through the address left by the consumer... Businesses, shops and business households that were previously doing traditional business due to the current covid situation must also change to keep up with the market trend with many different methods of buying, selling, delivering and receiving goods. It can be seen that Covid -19 makes the economic situation difficult, business owners must apply a flexible sales policy, so even though the store is closed, sales orders are still stable, new stores can only open sales. can "survive". However, besides the advantages, the increase in online purchases during the epidemic period also has the risk of bringing negative impacts to consumers, specifically as follows: Online shopping is so easy and fast that it's easy for consumers to spend more than their income, their families: With the development of e-commerce and competition between businesses, consumers have a Experience the best, easiest and fastest services when shopping online. With just a few clicks, consumers can buy a wide variety of items. This also creates and increases the situation of spending too much, even exceeding the income of yourself and your family. In addition, consumers may face more rights violations when buying online such as: goods are not as advertised, goods do not apply co-check, goods are delivered late, paid but not delivered. , personal information security... To avoid risks when buying online, consumers should choose goods at reputable addresses such as supermarkets, websites, and sales establishments registered to operate with the authorities with information. clear address, phone number, tax code...

### **SOME NOTES WHEN SHOPPING ONLINE**

Thus, online shopping helps consumers easily buy essential products quickly, conveniently and easily, but besides that, consumers should also have a high sense of vigilance about counterfeit goods. quality. Equipping the knowledge and skills to be able to conduct e-commerce transactions in the best way is essential for every consumer. Below are recommendations for consumers to

refer to. Firstly, always give priority to buying goods from reputable, registered and notified e-commerce sites to the Ministry of Industry and Trade. In the case of buying on social networks, choose reputable accounts with a long sales history. Second, only give priority to buying products that serve basic needs during the pandemic such as necessities, food, utensils, clothes for daily needs, etc. Avoid buying unused products. during this time such as: party wear / travel wear, picnic wear, electronic equipment for special occasions... Third, when receiving goods: Compare the information on the delivery receipt with the online order to limit the payment status for the order you did not order as well as receive the wrong product with the ordered product.

## **CONCLUSION**

In summary, online shopping will still be a trend in today's era with the convenience of speed it brings, consumers and businesses need to consider choosing information to be able to ensure their rights. benefits and have a safe shopping experience.

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# **BANKING DIGITALIZATION: INTERNATIONAL EXPERIENCES AND LESSONS LEARNED FOR VIETNAMESE COMMERCIAL BANKS**

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**Abstrac:** *Digitizing banking operations is a matter of concern for Vietnamese commercial banks. In recent years, many banks in Vietnam have entered the race to build and provide digital banking services. A number of digital banks have been established in Vietnam (Strategic cooperation model between fintech and commercial banks.) despite many limitations in operation. In fact, the race to digitize banking has been going on in the world for more than a decade, and many emerging countries have also succeeded in building digital banks. This article aims to analyze two typical examples of successful bank digitization in South Africa and India, thereby drawing some valuable lessons for Vietnamese commercial banks in the development process of digital banking.*

**Keywords:** *digital banking, digitalization, banking digital transformation, digital banking service.*

## **1. INTRODUCTION**

In the banking industry, the provision of services through digital banking has become essential. The development of digital banking has significant implications for banks' marketing efforts (Dootson, Peatnan, & Drennan, 2016), as it influences customer interfaces (Dootson, Peatnan, & Drennan, 2016). Digital banking affords banks and their clients' access to financial services. However, the transition to digital banking as a result of a shift in customer behavior poses a challenge for banks, particularly in terms of how services are provided. As customer expectations and bank competition rise, capturing and retaining customers and enhancing profitability have become essential following the 2008 financial crisis (Monferrer Tirado et al, 2016).

Traditionally, bank customers in Vietnam visited bank branches for any kind of transaction. The advent of digital banking channels such as telephone (t-banking), internet (e-banking), and mobile (m-banking) banking has altered the manner in which customers obtain banking services, posing a challenge to conventional banking practices. First Direct's conception of selling services via telephone in the late 1980s gave birth to digital banking (First Direct, 2014). It has allowed banks to offer multichannel services, changing the way they interact with customers (Payne, Peltier, & Barger, 2017), and has prompted many banks in developed nations, such as UK banks, to close branches deemed unprofitable due to a decline in customer numbers (French, Leyshon & Meek, 2013). These changes in banks have made digital banking research extremely compelling. This

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research focuses on the digital banking experiences of several global commercial banks in an effort to help Vietnamese commercial banks to build the appropriate framework for their digitalization.

Section 1 is the introduction and the rest of this article proceeds as follows. Section 2 summarizes the literature. Section 3 introduces the methodology of the research. Section 4 presents the results of the research. The last section concludes.

## **2. LITERATURE REVIEW**

### ***Digital banking***

Shaikh et al. (2017) explain that the history of automated services in banking dates back to the 1960s, when a large number of electronic transactions made data processing impossible without the use of such services, followed by the introduction of ATMs (late 1960s and 1970s), telephone banking and POS solutions (1980s), and online banking and mobile banking in the late 1990s (Feher & Varga, 2017). Yet, keeping up with digital technology trends has never been simple for banks, especially given the proliferation of internet-based services that offer customers low-cost transactions. In addition, as the number of customers with a solid understanding of technology rises and the Y-generation enters the market, more customers are turning to competitors in exchange for a more desirable digital experience (Feher & Varga, 2017). In fact, financial services now face a new challenge due to the simultaneous maturation of a vast array of digital technologies, such as mobile devices, social media, cloud computing, data analysis solutions, and the digitalization of processes. These technologies accelerate the working processes and increase efficiencies, which explains why they are crucial to the success of every business (Carretta et al., 2015).

Simply put, digital banking is the implementation of technology in a timely manner to ensure the integration of banking operations. Digital technologies' effects on financial services are pervasive. The potential outcome would be a completely different environment for financial services, requiring traditional players to make substantial changes to their operational structures. As a result, complex partnerships will develop between the financial services industry and other sectors. In addition, newcomers with potentially vastly distinct business models would emerge (Kelly, 2014). Notably, the emergence of new smartphone applications or the closure of all bank branches does not necessarily signal a transition from a traditional to a digital business model. In a true digital transformation, bank infrastructures are optimized for digital interactions, and the banks' cultures embrace rapid technological change. The business model of such banks is predicated on the delivery of entirely digital value propositions and the optimization of customer interactions through digital technologies.

### ***Digital banking transformation journey***

The digital banking journey, according to Parker Fitzgerald Ltd. (2014), consists of four phases: translation, distribution, simplification, and harmonization. In the translation phase, as the name suggests, the bank's digital strategy is translated into a digital risk journey with a specific focus on the risk's scope and associated regulations. Then, the necessary process revisions are implemented to ensure that the strategy is effectively implemented in accordance with major regulatory requirements. This also necessitates substantial investments in order to successfully advance to the next

phase. During the phase of simplification, investments continue alongside the use of re-engineered processes in both the regulatory and digital risk domains. Harmonization is achieved through the parallel implementation of legacy and digital models in order to improve the performance of the risk strategy supported by the operating models, resulting in an omnichannel banking architecture (Parker Fitzgerald Ltd., 2014).

The Code Halo group proposes that the dimensions of digital banking consist of data and data analysis strategies, business process strategies, and social media and smartphone strategies (Delacastro et al, 2016). In addition, A.T. Kearney argues that customers no longer rely solely on branch channels for decision-making; rather, they want to benefit from the perspectives of others with whom they are connected via social media. In order to attract customers and enhance customer satisfaction, banks use a variety of digital approaches, such as video consultations, social networks, and peer-to-peer consultations (Jaubert et al, 2014). The McKinsey firm believes that for digital banks, four communication factors, namely automation, communication, innovation, and decision-making, have a close relationship and mutual impact on one another, creating a simple framework for putting the banks' digital banking ideas into practice (Sengupta et al., 2014).

In addition to the reconstruction of operating models, Padmaavathy and Adalarasu (2015) argue that agility must be incorporated by banks. According to these academics, the implementation of digital banking relies on three pillars: customer-centricity, open innovation, and organizational adaptability. Client-centricity necessitates not only a focus on creating a positive digital customer experience but also a reevaluation of the function of branches. To shed more light, banks should modify their mentality in order to capture the essence of customer-centricity and eliminate the gap between the bank and the customer. Additionally, flexible IT infrastructures are required to investigate customer needs. A change in the role of branches is cultural in nature, necessitating a shift in the employees' habits, values, and experiences. Another requirement for digital banking is innovation readiness. This necessitates that IT and marketing teams – as the central units in the digitalization process – collaborate with internal and external knowledge sources to develop customer-centric value propositions. These partnerships result in the formation of open innovation ecosystems and allow banks to meet customer demands as quickly as possible. The critical role of agile IT platforms is best exemplified by time-to-market pressures and the growth of advanced technologies, which facilitate the incorporation of external cloud services. In fact, such capabilities serve as a differentiator for banks and lead to the improvement of customer experiences through a thorough analysis of their requirements. Yet, since offering value-added services such as social trading and peer-to-peer payments may place additional strain on the banks' existing core systems, the importance of finding smart modular solutions outside of the banks rises (Padmaavathy & Adalarasu, 2015).

### **3. METHODOLOGY**

The present study is descriptive research, in which data were collected through the investigation of existing academic documents. Considering the subject matter and the lack of ample studies in this field, it seemed necessary to make use of qualitative methods. Similarly, the main objective of the present study was to propose successful case studies of several commercial banks in the world in the journey of digitalization. The steps taken in this research can be categorized into two phases

initial studies and main studies. In the initial phase, the main emphasis was on the statement of the digital banking phenomenon of commercial banks. In this regard, vigorous efforts were made to explore the priceless lessons for Vietnamese commercial banks.

## **4. RESEARCH RESULTS**

### **4.1. TymeBank, South Africa**

TymeBank is an exclusively digital retail bank based in South Africa. TymeBank is owned by African Rainbow Capital (ARC) Financial Services, a company within billionaire Patrice Motsepe's Ubuntu-Botho Investments stable. It is South Africa's first majority black-owned bank focused on retail and business banking. Headquartered in Rosebank, Johannesburg, TymeBank being hosted securely in the cloud does not have any physical bank branches and relies on an Android banking App, an Internet Banking site and a partnership with two retail chains, Pick n Pay and Boxer, to host a national network of self-service kiosks that facilitate the account opening process. The Prudential Authority of the South African Reserve Bank (SARB), granted permission for TymeBank to operate exclusively online on 28 September 2017. And TymeBank officially opened its digital doors to the public after a soft launch in November 2018. TymeBank's main value proposition consists of (i) simple, affordable, and accessible products; (ii) fast and automated onboarding; and (iii) incentive programs that appeal to target segments (e.g., the SmartShopper loyalty program).

TymeBank's distribution network, which is based on its partnerships with the nationwide Boxer and Pick n Pay (PnP) grocery store chains, helps to keep operational costs low and passes cost savings onto customers in the form of more affordable services. A clear majority of the bank's customers cite affordability as a key source of value and the reason they opened a TymeBank account. The distribution network also extends the bank's reach to areas that are underserved by traditional players. The affordability and accessibility likely explain why underserved segments, such as low-income women and rural customers, are over-represented in TymeBank's (active) customer base as compared to the overall banked population in South Africa.

Despite having access to other banking options, TymeBank customers overwhelmingly see no compelling alternatives in the market. Crucially, the value customers see in the bank appears to be inversely related to income, with poorer customers reporting higher levels of satisfaction. TymeBank offers low-income customers simple products at low prices, such as checking accounts, savings accounts, and debit cards – all through a distribution network that combines online and offline customer interaction based on partnerships with grocery store chains Boxer and PnP. In the area of credit products, TymeBank only offers a “buy now, pay later” option called MoreTyme. This case study provides a compelling example of how challenger banks can leverage digital technology to reach excluded customer segments with more affordable and useful products.

#### ***Business model***

TymeBank's business model, like that of the majority of digital banks, is predicated on the expectation that it will become increasingly profitable and competitive at scale. Fees charged to customers and the net interest margin earned by placing customer deposits on the wholesale money

market are its primary sources of revenue at present. The bank anticipates revenue diversification as a result of the introduction of consumer lending products and business banking services.

As TymeBank scales, it anticipates that its cost structure will become a competitive advantage. Its cloud-based technology stack is designed with diminishing marginal costs in mind. There are no branch and ATM-related physical infrastructure costs. Customer acquisition and customer service infrastructure costs are low: it has on-boarded approximately 110,000 customers per month, including approximately 93,500 customers per month through kiosks at a cost of ZAR 50 (US\$3) per customer and approximately 16,500 customers via the web at a cost of approximately ZAR 10 (US\$0.6) per customer. The bank is entirely accountable for the design and production of kiosks. According to TymeBank, the cost of operating a kiosk is approximately 4 percent of the cost of operating a bank branch. This consists of the cost of service, the fee paid to partners (retail stores), and the cost of ambassadors.

Cost drivers for TymeBank include distribution and information technology expenses. IT expenditures account for a sizeable portion of the bank's annual budget, but they will decrease proportionally as the bank continues to expand nationally and internationally. The bank estimates that these costs are lower than the branch-related expenses it would have incurred had it opted for physical locations. TymeBank aims for a cost-income ratio of approximately 25%, which is roughly half of the cost structure of the incumbent banks. It expects to pass on these savings to customers through market-competitive pricing.

Dependence on third parties for essential functions such as cash deposits and withdrawals carries a degree of risk. TymeBank does not manage the personnel or POS infrastructure involved in these transactions. The bank does not train, supervise, or incentivize the tellers who serve TymeBank customers in its retail locations, nor does it control the interface's process flow, visual design, simplicity, or reliability. Consequently, the quality of service and customer experience at retail points are largely dependent on variables over which the bank has limited influence.

The bank mitigates these risks through partnership agreements that require retail partners to train and manage store personnel, integrate their backend systems, and provide consistent service to TymeBank customers. Additionally, TymeBank has established a support structure with ambassadors in each store to assist customers and store employees. It manages the ambassadors through a team of dedicated area managers who oversee the ambassador program, monitors the store staff's activities, and frequently visit stores. The technology stack of TymeBank can finally monitor transaction issues in real time.

#### **4.2. Kotak 811, India**

Kotak Mahindra Bank (KMB) introduced Kotak 811, a fully digital retail bank, to attract mass-market retail customers in March 2017. In the 18 months following the launch of KMB, the number of customers doubled from 8 million to 16 million. This tremendous growth can be attributed to targeted marketing, the user experience of real-time and fully digital customer onboarding, the absence of fees for digital transactions and payments, and interest rates on deposits that are competitive with the market average. Additionally, macroeconomic factors and demonetization have created an opening.



The digital banking solution of Kotak 811 exemplifies how an incumbent bank can adopt new and innovative channels to improve the acquisition of its target segment and expand to serve low-income, unbanked, and underbanked customers at scale. KMB's legacy as a credible and trusted bank in India, the bank's balance sheet, an aggressive marketing campaign, and a commitment to modernizing its technology stack have been the primary drivers of the growth of the digital bank.

While it is difficult to determine the commercial viability of 811's solution independent of KMB, its ability to acquire, serve, and enable customers to graduate to a vast array of financial products provided by KMB are early indicators of success. 811 is not a distinct legal entity and is, therefore, wholly controlled and operated by KMB (i.e., clients of 811 are KMB clients). It is essential to note, however, that 811 is KMB's digital arm and not merely its online and/or mobile banking interface. KMB gives both 811 and non-811 customers access to its online and mobile banking channels.

811 competes in a highly dynamic market. Other incumbent banks, such as ICICI and SBI, are implementing digital solutions to expedite their deployment, increase customer engagement, and facilitate cost-effective product diversification. Neobanks such as NiYo, InstantPay, Open, and Yelo provide banking services to individuals and businesses in collaboration with sponsor banks. I delivery of banking services through convenient app-based channels (e.g., Open, InstantPay, and Yelo); (ii) tie-ups with wide physical distribution networks including agents (e.g., InstantPay); (iii) corporate employers primarily consisting of small and medium-sized businesses (e.g., InstantPay, NiYo, and Open); and (iv) user interfaces that cater to customers with varying levels of literacy and language preferences (e.g., NiYo offers an app in several languages and an integrated voice response system).

The value proposition consists of I simple, affordable, and accessible products and (ii) rapid, customer-focused onboarding. The hypothesis of KMB was that offering customers a simple and convenient way to open a bank account in less than five minutes would attract not only more customers but also customers from underserved segments. Customers of all demographics began opening accounts 24 hours a day, seven days a week. Prior experience of the bank indicated that if customers are not required to maintain average minimum balances, they do not maintain balances in their accounts. After collecting data for more than two years, however, it became clear that 811 customers maintained positive balances. Customers can sign up for an account remotely or at home and complete the know-your-customer (KYC) process. This convenience helps customers overcome physical barriers associated with branch visits and could significantly reduce the amount of time low-income customers, particularly women, must devote to traveling to branches. There are no fees associated with the account, making it affordable for customers with low incomes. This is especially pertinent for a significant portion of 811's customer base, including students and the unemployed, who do not receive a regular income.

### ***Business model***

811's main sources of revenue are (i) transaction fees for banking activity beyond the set of free transactions; (ii) annual physical debit card fees of INR 199/INR 150 (US\$2.5/ US\$2) and debit card interchange fees, (iii) net interest income, and (iv) income from cross-selling various financial products related to, for example, assets and investments. KMB is focused on increasing

the size of its 811 customer base. In addition to attracting more customers, the company is attempting to “split the pie” by cross-selling its other products to 811 existing customers. For instance, many 811 customers are advancing to profitable products such as credit cards. In terms of its business model, 811 is still in its early stages of operation. Its long-term strategy is to generate profits through an expanded customer base and cost efficiencies that benefit KMB as a whole, offsetting the initial investment. For example, 811’s one-time cost of customer acquisition is approximately 15% of KMB’s average cost of customer acquisition. Providing customer service through a chatbot that employs artificial intelligence instead of a call center is another instance of cost-effectiveness. 811 functions as a center of excellence within KMB; its employees possess digital expertise in technology, risk, business intelligence, and marketing. Human resources required to develop and operate 811 include a 40-person dedicated 811 business team, a field force of 1,500 personnel who complete customer Know Your Customer (KYC) checks, 20 IT and solutions experts, and 30 risk monitoring and containment professionals.

## 5. CONCLUSION

TymeBank and Kotak 811 are very different from each other, but they share important commonalities: (i) Leveraging granular data to better understand the target customer segments; (ii) Translating this understanding into product offerings that cover most common needs and have appealing affordable prices; (iii) Using technology-enabled approaches to optimize the onboarding process and (iv) Blending offline and online interfaces to address different levels of digital inclusion among their client base.

TymeBank represents a start-up bank that has been built from scratch with financial inclusion as a key business objective and with a technology stack that uses the latest technology and lean system architecture. Kotak 811 represents a popular strategy among traditional banks that understand the need to modernize but are reluctant to face the risks of a substantial digital transformation. It illustrates that even incremental changes can yield significant results, but there is a risk that it will be held back by the limitations of Kotak’s core digital capabilities and culture.

From the experiences of going digital from TymeBank and Kotak 811, Vietnamese commercial banks can learn several lessons as mentioned below:

*Available technology and its use:* some technological advancements have greatly benefited digital banks. These include the following: cloud computing, which allows for flexible scaling of core functions; biometrics allowing for remote customer due diligence; data collection and analytics that enable a granular understanding of narrowly defined customer segments; microservices architecture, which provides for flexible and fast configuration and reconfiguration of products based on customer feedback; and opening APIs that make collaboration across players easier.

*Identifying the suitable targeted customers:* Like South Africa and India, Vietnam still has a lot of people living in the poverty. Therefore, if commercial banks in Vietnam can build up a platform of digital banking services at a lower cost and provide these services widely, they will not only enlarge their market shares but also support the Government to promote financial inclusion nationally.

*Establishing an edgy business model:* Digital banks have been able to leverage this modern architecture into new corporate capabilities to create: (i) An agile work culture of continual product development that is capable of testing and prototyping new products and services based on customer feedback; (ii) Integration with third-party solutions and services through an API layer; (iii) Readily scalable solutions that respond to actual demand and business needs and (iv) Superior data analytics that yield business insights in real time.

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# THE CONTACTLESS ECONOMY A SOLUTION TO THE “NEXT NORMAL STATUS” IN VIETNAM

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**Abstract:** *The outbreak of the COVID-19 pandemic is also when the phrase “less-touch economy” or “contactless economy” is mentioned often. The observance of social distancing measures to prevent and control the epidemic has strongly affected the economic structure, as well as the behavior of society, and inevitably led to the formation and development of a non-contact economy. touch. Accordingly, a new way of life, new business practices have been formed and thrived. One of the proofs of the “contactless economy” trend is the explosion of e-commerce activities since the COVID-19 pandemic appeared in late 2019, early 2020. In Vietnam, the pandemic is changing the way people work, eat, shop, doing exercises and spend their free time in ways they never thought before. The transition to a “contactless economy” will help Vietnam keep up with a global trend that we cannot stand aside. The Vietnamese people, businesses, and the government need to be prepared to live together with the epidemic, and the “contactless economy” is the way for the future time.*

**Keywords:** *contactless economy, less-touch economy, non-touch economy, COVID-19 epidemic, at-home consumption, contactless consumption....*

## INTRODUCTION

Only in a span of one year since the outbreak of Covid-19, The International Monetary Fund (IMF) declared the global GDP per capita due to the COVID-19 crisis to decline twice as much as the Global Financial Crisis of 2009. There is one thing that this crisis is unprecedented not just in terms of the huge impact it had so far but the kind of “next normal status” it is going to leave in its aftermath. It is just “the contactless economy”.

The Contactless Economy makes the COVID-19 crisis different from the previous crises. Every crisis in the past led to lower consumer spending that had a knock-on negative effect on the demand for products and services, and caused severe business and economic contraction. It is believed that the single most important factor that differentiates this crisis from the previous ones is the rise of the contactless economy. The contactless economy has been driven by both supply-side (e.g. rise of the digital technologies such as 5G, cloud platforms, AI & Data analytics) and demand-side factors (e.g. need for convenience, heightened awareness for health and safety). Some of these existed previously but were accelerated due to the crisis.

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**1. IDENTIFYING CONTACTLESS ECONOMY**

*a) What is contactless economy?*

The contactless economy is evolving unprecedentedly but a broad definition can be put in order to scope the impact. This study defines the contactless economy into two broad branches (refer to Figure 1). The first branch is the rise of ‘at home’ consumption which encompasses the shift of consumer touchpoints that were done outside of the home to inside the home. These will include the already known e-commerce way of buying and getting delivered consumer products or the emerging remote health. The second branch is the contactless outside-home consumption where the consumer touch-points that were done outside of home continue to be so but have morphed to become ‘touchless’ by technology and service innovation.

**Figure 1: Definition and scope of contactless economy**

Rise of at-home consumption		Rise of Contactless outside-home consumption	
Consumption pattern will shift from outside of home to inside of home		Consumers continue to rely on outside home consumption, however there is a shift in the way they consume	
Categories	Example Contactless Offerings	Categories	Example Contactless Offerings
Consumer Products	E-commerce	Consumer Products	Store of the Future
Food & Beverage	Restaurant Delivery	Food & Beverage	Experiential Dining with automatic Ops
Health	Remote Health	Health	Touchless Monitoring Diagnosis and Care
Financial Services	Virtual Banking	Financial Services	Smart Branch/ATM Ops
Education	Virtual Classroom	Education	AR/VR Learning & Collaboration
Leisure and Recreation	Virtual Reality Experiences	Hospitality	Virtual Concierge
		Transport	Mobility as a Service (AV-focused)

Source: *Contactless Economy, Are you prepared? Monitor Deloitte, 2020*

*b) Drivers of the contactless economy*

There are demand-side and supply-side drivers that make the contactless economy a real phenomenon in the making. A number of researchers point out five drivers that persist beyond the current crisis, the first two being more demand-driven and the last three being more supply-driven.

- *High awareness of health and safety*

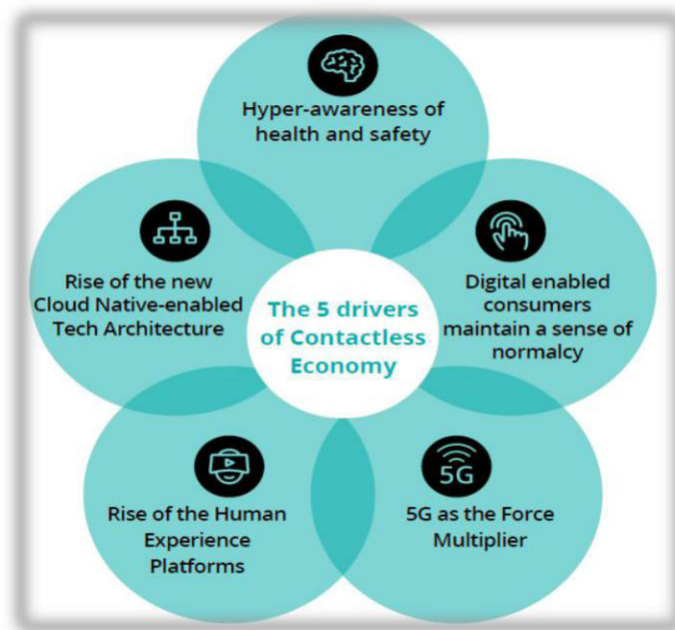
Physical health is the top consumer concern at this time, followed by financial concern and getting back into social life. Many people no longer feel safe going to a store or participating in

social events. Although daily life recovery begins to be on the rise, the consumer will take time to regain confidence and will continue ensuring the safety of him and his loved ones. Digital consumers can maintain a greater sense of normalcy

During lockdowns, consumers sought out digital channels to maintain their normal ways of life from their homes. One of the fundamental motivations was human interconnection. The videoconference was an alternative to working, living, and connecting with other people.

On the other hand, the adoption of cashless payments has made it possible to maintain purchasing habits. Digital payments and e-commerce will continue to boom, becoming the first payment choice for all sizes businesses. Walmart moved quickly to transform its online shopping experience by linking its perishables app with other products. The goal was that customers meet all their home shopping needs in one place. With this change that might seem subtle, the online sales of the mega-retailer during the first quarter of 2020 grew by 74%.

**Figure 2: 5 drivers of the contactless economy**



Source: *Contactless Economy, Are you prepared?* Monitor Deloitte, 2020

*- 5G drives the development of other technologies*

Wireless technologies are critical to the efficient development of AI, IoT, and cloud computing. In light of, COVID-19, the importance of connectivity has become even more apparent. The automation acceleration to promote social distancing means that organizations also need a powerful network infrastructure. 5G's advanced capabilities will enable companies to improve the customer and internal experience, unlock new competitive advantages, and thereby advance the contactless economy.

*- Rise of human experience platforms*

The "human touch" will be one of the main digital experience's goals. The lack of connection can lead to a user alienated and little connected with brands. This leads to the rise of people-centric

platforms that support bringing a more human experience to consumers' digital lives. The affective computing market is projected to grow by \$ 90 billion by 2024. While it cannot replace human physical contact, it can detect the moods of consumers, infer their needs, and respond personally and emotionally.

*- The emergence of the new cloud-enabled technology architecture*

With technology as the backbone of digital experiences and innovative contactless offerings, technology architecture has become a way for companies to take advantage of these opportunities. This marks the beginning of a trend that emphasizes an agile and scalable enterprise technology architecture, pointing towards deeper adoption of the cloud. This will help consumer-oriented businesses improve efficiency and react quickly to changing consumer behaviours. In this sense, it is key to implement an efficient corporate cloud architecture, connect the different environments in such a way that we offer a single integrated vision.

*- The needs for security and personal privacy are here to stay*

The market has changed rapidly and forcefully. Companies that now develop a long-term strategy to mitigate risks, while offering distinctive, human-centric experiences, will emerge from the pandemic with greater operational resilience. Becoming more agile organizations with a sustainable competitive advantage to better respond to a changing economic context and with greater adaptability to the future.

***c) The Customer Segments in the Contactless Economy***

The pandemic has given individuals the opportunity to relook into the lifestyle choices they have made, re-evaluate and potentially reset. There are multiple ways to slice and dice to analyse these new customer segments. The rise of the contactless economy could be considered an outcome of customer segments, two dimensions remain pertinent – (1) the choice the customer makes from now on where to consume – at home virtually, or outside the home through low or no person to person touch and 2) the behaviour of the customers towards the offerings i.e. will the customers look for experience or value for money in the offerings as before or not due to the crisis.

*- The Touchless Store Experiencers* are experience driven customers who crave for the physical experience but continue to remain cautious about health and safety. They expect human interfaces in the physical world but nevertheless also want a touchless service journey in a safe environment. They do not want a service journey that makes them rush yet they also do not want to get too close to human touch as they worry about contamination. The desired value proposition for such a segment are service journeys that are lowtouch but with personalised connections, assisted interpersonal journeys and a superior customer experience. Companies can curate low touch journeys through in-store digital interaction, by enabling tech like 5G, sensors and AI-driven customer experience. In a survey of consumers, 69% claimed they would use a VR booth before making their purchase. A remarkable two-thirds of Japanese consumers would like to see more physical stores use VR/AR, while 92% of Chinese consumers share the same sentiment.

- *The Drive-through*, in contrast to the touchless store experiences, prefer condensed purchase journeys. They value speed and simplicity, and do not mind features that are completely devoid of human interactions e.g. automated check-in counters. Nevertheless, they prefer physical interactions with their products and services and hence will maintain outside home buying journeys. The desired value proposition for such customers is a fast and safe and potentially a seamless online to offline customer journey. Key features for the businesses to incorporate in their journeys are contactless self-service kiosks, fast payment options and pick-up trays and virtual checkouts to the physical realm.

- *The Shut-in Shoppers* are the customer segments who have chosen a lifestyle where they want their products and services to be delivered and consumed at home with a great value for money mind-set. 54% of consumers made most of their purchases via mobile apps in the last 12 months. In China alone, 89% of Chinese consumers will be more willing to shop daily necessities or fresh products online after the pandemic. Seeking homebound fulfilment, these customers make quick purchases and expect swift deliveries, while paying the least possible price. Comfortable with consuming through the digital economy, they are loyal to a handful of multi-purpose platforms. The desired value proposition for this customer is an end-to-end online service journey for convenience and value for money and modularised portfolio of choices for the consumer to pick and choose from.

- *The Virtual Patrons* repurpose their homes as an integrated destination. They want brands that help them live a virtual experience without leaving their home and are willing to pay a premium for such an experience. Companies can offer significant value added products and services by leveraging the proliferation of smart tech like IoT and AR/VR enabled by 5G. An AR tech provider to beauty brands highlighted that virtual samplings have increased 32% since the pandemic in the US. Furthermore, it mentioned that shoppers who try out a product virtually online are nearly 3x as likely to buy them and can spend 10% more.

## **2. THE CONTACTLESS ECONOMY IN WORLD-WIDE COUNTRIES**

Within the Contactless Economy, 'at-home' consumption alone has the potential to be a \$3 trillion market by 2025. The scope of the contactless economy is evolving rapidly. There are two broad branches of contactless economy: the 1<sup>st</sup>, 'At-home' consumption and the 2<sup>nd</sup>, 'Contactless outside home' consumption. Whilst the overall consumption levels may come back to pre-COVID levels, the 'contactless economy' will cause a shift in the way the customers will consume. It is estimated that the 'At-home consumption' will increase by over two-fold amounting to \$3 trillion with almost 20% of this figure due to the uplift caused by the COVID-19 pandemic. The top 3 sectors with the largest market size in this economy will be consumer products, leisure/recreation and education, and the top 3 sectors with most growth will be financial services, health and consumer products.

Up to now, a number of countries have taken a series of policies toward the rise of the contactless economy. An advanced nation such as South Korea announced a national push to



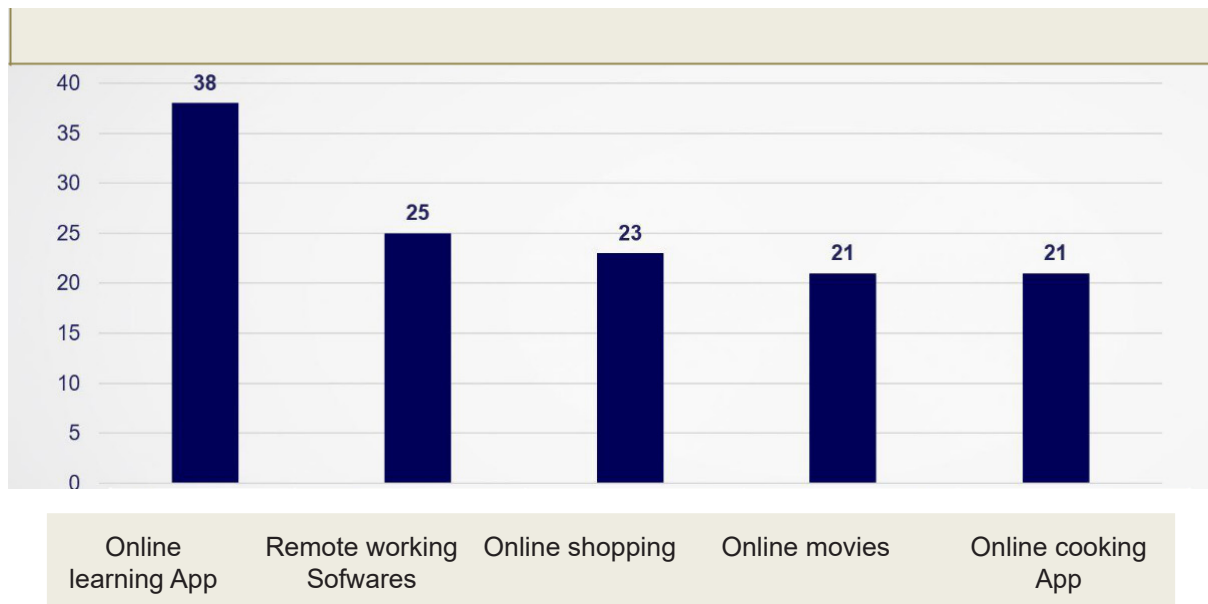
reshape its economy around the concept of “untact” – a clever synonym of contactless. Untact has become a key plank of South Korea’s 76 trillion won (\$62 billion) “New Deal” program. A 136-page report released detailing the program calls for further investment in robots, drones, self-driving vehicles, and other technologies that will reduce the need for person-to-person contact. Similarly, Japan plans to encourage more use of contactless and remote services that have gained renewed attention due to consumers’ fear of touch and will explore the use of low-speed, autonomous delivery vehicles after the country saw increased demand for delivery services due to the coronavirus epidemic, according to a draft strategy.

### **3. THE CONTACTLESS ECONOMY DURING COVID-19 PANDEMIC IN VIETNAM**

In the last period, in response to COVID-19, Vietnamese businesses and government agencies have initiated many activities this year to reduce the many touchpoints for the economy. For example, the Cashless Day - an initiative of the State Bank of Vietnam, the National Payment Corporation of Vietnam (NAPAS) and the Vietnam E-commerce Association – had taken place on June 16, 2020. At the same time, the pandemic has also accelerated the Government’s Plan to 2030 to provide a variety of public services on different means of access (including mobile phones) and handle work records at all levels of government across the globe network environment. State management agencies encourage cashless payment applications with e-wallets, pilot application of mobile money models, and online public services have really exploded in Vietnam. According to Mastercard Targets Touchless Economy, in adaption to the COVID-19 pandemic, the world’s no.1 card payment supplier has collaborated with partners in the field of artificial intelligence (AI) such as Accel Robotics with Shop Anywhere platform to serve customers without queues and secure payment without direct contact with staff. Such models as the “National Online Vietnamese Pavilion”, built by the Ministry of Industry and Trade, connecting with e-commerce platforms are both a solution to stimulate domestic consumption demand and effectively promote consumption. The contactless economy has promoted the development of industries of information technology, electronics - telecommunications, safety, network security, smart manufacturing industry, robotics, finance - banking, commerce, etc. e-commerce, digitalization of economic and technical industries, even seemingly unrelated industries, such as agriculture, tourism, cultural industry, health care, education training...

A recent survey by the Mobile Marketing Association shows that digital services have grown dramatically due to many customers using online services for the first time during the pandemic. The shift of customers to online interactions will spur businesses to invest more in digitizing core processes. Now, many domestic enterprises have regarded digitalization as the key to sustainable growth.

**Figure 3: The percentage of Vietnamese people's using online services for the first time in the pandemic**



Sources: Mobile Marketing Association, 2020

The above figure shows that, during the COVID-19 pandemic, digital services have grown strongly by attracting many first-time customers. For example, up to 38% of customers are using e-learning applications for the first time, 25% are using remote working software for the first time, 23% are buying online for the first time, 21% are watching movies online for the first time, According to the Department of E-commerce and Digital Economy under the Ministry of Industry and Trade, in 2020, Vietnam's e-commerce has grown by 18%, the market size reached \$11.8 billion, accounting for 5.5% of the total retail sales of goods and services nationwide with the average number of customers accessing e-commerce platforms around 3.5 million visitors/day, an increase of 1.5 times over the same period.

In Vietnam, according to data from the Department of E-Commerce and Digital Economy (Ministry of Industry and Trade), in 2020, Vietnam's e-commerce has grown by 18%, the market's size reached 11.8 billion USD, accounting for 5.5% of the total retail sales of goods and services nationwide with the average number of customers accessing e-commerce platforms about 3.5 million visitors per day, an increase of 1.5 times over the same period. In particular, in response to the COVID-19 pandemic, regulatory agencies encourage cashless payment applications with e-wallets, pilot mobile money models, and online public services. According to the State Bank of Vietnam, as of April 22, 2021, there are 43 organizations licensed to provide payment intermediary services, including many large and reputable e-wallets. By the end of the first quarter of 2021, the whole country had 96 million domestic and 18 million international bank cards. 19,714 ATMs with nearly 250 million transactions, total value of 767 trillion VND and 271,727 points accepting card payments (POS) with over 103 thousand transactions, total value of nearly 180 trillion dong.

Vietnam currently has more than 30 million people using the banking payment system every day. The growth rate of mobile banking services is 200% per year. In order to minimize the risk of

disease spread from direct and cash transactions, Vietnam has accelerated to implement the policy of limiting cash payments. In fact, there have been many non-cash payment systems developed with advanced technology, such as: inter-banking electronic payment system, clearing system, internal payment system, card payment system, payment system via internet and mobile phone...

#### **4. POLICY IMPLICATIONS TO PROMOTING THE CONTACTLESS ECONOMY IN VIETNAM**

*Firstly, continue to improve institutions and policies on the contactless economy on the basis of national digital transformation.*

Overcoming the situation that legal regulations do not keep pace with the development of science and technology, perfecting the law on enterprises, innovative start-ups, intellectual property, trade, investment and business to facilitate the national digital transformation and develop new products, services and economic models based on digital technology, the internet and cyberspace. Therefore, in the law and ordinance-making program of the XV National Assembly, in the 2021-2026 period, it is necessary to soon review and include in the program of laws amending and supplementing a number of laws related to the digital economy and business non-touch economy.

To perfect laws and policies on finance - currency, electronic payment, tax management and cross-border services in line with the development trend of the digital economy, including the policy of production order and public procurement for digital technology products developed by Vietnam, a number of legal provisions in the Law on Credit Institutions 2010, amended and supplemented in 2017, Law on High Technology 2008, Law Information technology 2006, Law on Electronic Transactions 2005, Law on Technology Transfer 2017... related to digital economy, contactless economy associated with consideration, amendment, supplement, and facilitate innovation, form a number of new industries and business lines associated with investment incentives to promote participation in the Fourth Industrial Revolution. Research and promulgate a system of national standards and regulations as a foundation for the application and development of core technologies of the contactless economy in order to create synchronization and a legal framework for research and development (R&D) of new technologies.

Pay serious attention to financial policies to encourage and mobilize all social resources to invest in scientific research, technology development and application, innovation, and focus on core technologies. of the Fourth Industrial Revolution. Amending regulations on investment towards facilitating activities of capital attraction, share purchase, purchase and sale, merger of technology enterprises; Foreign investors contribute capital to innovative start-ups, including piloting initial public offerings (IPOs) for innovative technology and start-up businesses. Soon there will be substantive support programs in terms of loans, land, factories, labor, taxes... for enterprises to research and apply technology, implement digital transformation to improve productivity, quality, efficiency and competitiveness of the economy.

*Secondly, allow piloting some new contactless economic models.*

In the inevitable trend of the digital economy, the contactless economy, when many legal provisions are outdated, it is necessary to study and promulgate an institutional framework for controlled testing of technologies, products and services. A new business model of the non-contact

economy, clearly stipulating the scope, space and time of testing associated with building a system of standards and regulations for products, technologies, and business models. new.

***Third, rapidly modernize the technical infrastructure for digital transformation to meet the needs of contactless economic development nationwide.***

Encourage businesses of all economic sectors to participate in building telecommunications infrastructure and infrastructures for national digital transformation in the direction of synchronization, unification, taking advantage of and continuing to effectively exploit network infrastructure. telecommunication network to deploy the digital economy, the non-contact economy, to ensure network safety and security to meet the national cybersecurity strategy. To soon connect the electronic payment system of credit institutions, payment intermediaries with the infrastructure of tax, customs and state treasury agencies to serve the requirements of coordination on budget collection and expenditure, payment fees of public service electronically.

***Fourth, develop high-quality human resources.***

Renovate educational and training contents and programs in the direction of developing accessibility, creative thinking and adaptability to a constantly changes and developing technological environment, teaching and learning on the basis of application using digital technology. Establishing mechanisms and policies to encourage and give practical incentives for organizations, individual and technology enterprises to directly participate in the education and training process, and to create products for the digital economy attracting and using talented people.

***Fifth, actively participate in regional and global legal frameworks to develop the digital economy.***

Completing policies and legislation on data, data governance, facilitating the creation, connection, sharing and exploitation of data to ensure network safety and security in the country, towards connecting with the Internet. Southeast Asian countries (ASEAN) and international organizations encourage multinational companies to set up research and development bases in Vietnam on the basis of domestic and international intellectual property law in association with protection and efficient reasonable exploitation of intellectual property.

## **CONCLUSION**

The COVID-19 global pandemic has impacted the world and shaped human behavior with lasting impact. The year 2022 will be a year of transition as the world battles its way through the devastation caused by the pandemic and look toward a future - a 'zero-touch economy'. Consumers with higher awareness have chosen "no-touch consumption" to both satisfy their consumption needs and protect their own health. This research has shown that out of 5 factors that are the drivers for the "contactless economy", almost four are derived from the support of digital technology (5G, cloud platforms, intelligence and data analysis). In the process of economic recovery after the pandemic, Vietnam needs to promote the strong development of this new model. The solution should come from both sides: For the Government, the most important thing is to complete the legal corridor, creating a basis for the "contactless economy" model to develop in the right direction. On the business side, it is necessary to pioneer in building a contactless economic model, focusing on

investment in promoting e-commerce, artificial intelligence, etc., because after all, businesses are the beneficiaries most from this economic model. The COVID epidemic may soon be gone, but the “contactless economy” has come and stays with us for the next long time.

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# THE COMPETITIVENESS OF RETAIL BANKING SERVICE IN VIETINBANK

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**Abstract:** Retail banking has always been considered as a core activity of banks because it has the effect of accelerating the cash flow process and creating a mainstream medium and long-term capital source for the bank. Vietnamese commercial banks now are facing great risks. This reality requires banks to improve their competitive capability to compete with domestic banks and foreign banks. This study examines the determinants affecting the competitiveness of retail bank service in VietinBank. By using (Ordinary Least Square) OLS regression, the results show five determinants affecting positively on the competitiveness of the retail banking services including service quality, financial capacity, risk management, organizational culture, and social responsibility. The findings indicate that financial capacity has the biggest effect and service quality has the smallest effect on the competitiveness of retail banking services in VietinBank. The research also proposes specific solutions to enhance the competitiveness and sustainable development of retail banking services in Vietnam.

**Keywords:** competitiveness; retail banking service; VietinBank; Vietnam

## 1. INTRODUCTION

Banks play an important role in the development of economies and act as financial regulators and intermediaries between the sender and the borrower. The bank serves a wide range of customers and provides a variety of services in different forms, including the retail banking segment with the main activity of providing products and services to individual customers. Developing retail banking services is now an inevitable trend for commercial banks in the world and in Vietnam. Retail banking services have become an inevitable trend and there is still a lot of potential in Vietnam, which means that the competition in retail services among banks is increasingly fierce. Not only competing in the domestic banking system, but banks also must compete with financial institutions in the region and around the world because the process of integration and globalization has brought about borderless financial services. In addition, the development of the industrial revolution 4.0 has created a series of Fintech financial technology companies, becoming direct competitors of banks. Therefore, to survive and develop sustainably, banks need to improve their competitiveness, especially in the retail banking segment. Moreover, there are still many limitations in the retail banking segment in Vietnam, for example, the amount of capital for retail banking is

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still low; products and services are not yet abundant, mainly traditional basic products; inefficient distribution channels; marketing strategies is not clear; undeveloped technology; unprofessional sales force; poor service and high fees

Vietnam Joint Stock Commercial Bank for Industry and Trade (VietinBank) was established in 1998 and has always played a key role in the banking system in Vietnam together with a group of large state-owned banks such as Joint Stock Commercial Bank for Investment and Development of Vietnam - BIDV, Joint Stock Commercial Bank for Foreign Trade of Vietnam - Vietcombank (VCB) and Bank for Agriculture and Rural Development of Vietnam (AgriBank). VietinBank's business activities are performed well, under the development strategy orientation that VietinBank has built in accordance with the market reality. This strategic orientation helps VietinBank develop, become an important bank in the economy, and successfully integrate into the international economy. VietinBank has a nationwide network and is also the first and only Vietnamese bank present in Europe. However, VietinBank is currently slower than its competitors, which are the three state-owned commercial banks mentioned above and some large private commercial banks in promoting retail banking. While at other banks personal loans have accounted for a large proportion of total loans, personal loans in VietinBank have only accounted for about 3% in 2019. Therefore, it is necessary to study VietinBank's competitiveness in the retail service to propose solutions to help the bank catch up and compete with other banks and financial institutions.

The focus of many previous research papers was generally to look at the factors affecting the competitiveness capability of firms in developed countries. However, knowledge about the determinants affecting the competitiveness capability of retail banking services is limited, particularly in the context of developing countries. Starting from the importance of the retail banking segment at commercial banks in general and of state-owned banks in particular, this paper clarifies the level of competition of VietinBank's branches by provinces and at the same time examines the external and internal factors of the bank affecting the competitiveness of retail banking services in VietinBank. This study also provides solutions to enhance the competitiveness of retail banking services in the context of financial institutions in Vietnam suffering from both positive and negative shocks from the outside.

This article is organized as follows. Section 2 presents theoretical framework and literature review. Research methodology and research design are mentioned in Section 3. Section 4 provides the results of the estimation. Conclusion is discussed in Section 5.

## **2. THEORETICAL FRAMEWORK AND LITERATURE REVIEW**

### **2.1. Theoretical framework**

From a business perspective, competitiveness is the capacity of a company to produce and provide products and services with high quality and low cost compared to its competitors (D'Cruz and Rugman, 1992). In other words, competitiveness is the ability to maintain, deploy, and coordinate resources in a way that helps enterprises achieve their goals. According to the Value Disciplines Model, the three main pillars that create the competitive strength of enterprises include product leadership, operational excellence, and customer intimacy (Treacy and Viersema, 1993). Product leadership is the constant effort to deliver leading-edge products or useful new applications. This

requires companies to be creative and responsive to the market. Operational excellence is about providing reliable products or services to customers at competitive prices and the most-timely service. Customer intimacy is about constantly tailoring its products and services to customers in a way that can provide the “best total solution”. Loyal customers are the cornerstone of competition. Krajewski and Ritzman (1996) argued that competitiveness included factors such as labor force, facilities, knowledge of financial markets, and technology. The competitiveness of a commercial bank is the ability to create and effectively use comparative advantages to compete with other commercial banks (Casu and Molyneux, 2003). The comparative advantages are derived from expanding the network and increasing market share for the purpose of growth and development and obtaining increasingly higher profits to ensure the operation of the bank. In other words, the nature of commercial banks’ competitiveness is based on the bank’s advantages in the market such as business efficiency, market share, or customer relationship. Thus, the business efficiency of banks can be considered as constituting the competitiveness of commercial banks.

To improve the competitiveness of retail banking, it is necessary to determine factors affecting the competitiveness of banks. The external and internal environment can affect the operation of commercial banks. According to Barth et al. (2002), the bank’s competitiveness depends on the business environment (market forces as customers and suppliers), the economic environment (economic growth, accession conditions), and the internal environment (scale, accessibility of customers, banking risk management). The external environment is an important condition that helps the bank achieve the highest efficiency. When the domestic macro economy is stable, the legal system is clear with a transparent institutional environment and advanced technology, it will create favorable conditions for banks to expand their business activities and improve competitiveness. The internal factors identify strengths, weaknesses of enterprises including product, service quality, human resources, distribution network, brand and reputation of the bank, financial capacity, promotion activities, technology level, risk management, organizational culture, social responsibility, etc.

## **2.2. Literature Review**

To maintain a competitive advantage in the long term, enterprises in general must continuously add value to customers. Good service quality can effectively improve the competitiveness of enterprises. The research of Hamzah et al. (2017) evaluated the service quality of retail banking in Malaysia from the customer perspective and put it in relation to the overall service quality when considering the relationship between service quality with the bank’s reputation, customer satisfaction, and trust. This study pointed out service quality affects the bank’s image in the evaluation of customers. Service quality can come in the technical form (what service is delivered) and functional aspects (how, when, and where the service is delivered). Obtained results by Meesala and Paul (2018) showed that service managers should focus on improving the functional factors such as timeliness of service delivery, attentiveness of the staff, communication with clients about service delivery time, accurate invoice information, promptness of service, and willingness to help staff. In other words, staff attitude toward service users, proper communication, and correct service delivery are essential. Roy et al. (2018) showed service convenience played a positive and important role in the engagement of service users. Meanwhile, management processes aimed at ensuring the safety of users can affect the customer’s utility experience. The banks need to position



their services towards a better quality of life. Prentice et al. (2019) pointed customers are not only looking for tangible benefits but also value the experience they received. From the customer's point of view, the service provider needs to offer quality service to be competitive as customers have a lot of alternatives to achieve their goals. Inversely, a failure in service delivery can decrease customer satisfaction. The research by Piha and George (2015) showed dissatisfaction with service quality is the reason why users abandon a bank. Managers need to emphasize to their employees that customers should be treated with fairness and kindness when a problem arises. Customers often have strong negative emotions if they feel offended. In the context of the international economic integration of banks, Tran Thi Hang Ni (2016) reveals that the quality of customer service affects the competitiveness of banks. Therefore, the research hypothesis is:

*H1: Service quality has a positive relationship with the competitiveness of retail banking services*

Salome et al. (2018) provided an empirical analysis of the trade-off between financial inclusion and credit risk of commercial banks in Kenya. The paper analyzed the effect of financial inclusion on credit risk and banking competitiveness of commercial banks in Kenya. Givi et al. (2010) identified factors affecting the competitiveness of the banking system in Iran, thereby ranking the banks. The main independent factors were financial capacity, market share, human resources, international cooperation, and information technology application. The results of the study showed that financial strength is the main factor affecting the competitiveness of commercial banks. In Vietnam, Tran Thi Hang Ni (2016) also indicates financial capacity affects the competitiveness of commercial banks. Financial capacity is the factor that has the strongest impact on the overall competitiveness of commercial products in Vietnam in addition to organizational capacity, human capital, banking management and technology (Nguyen Thi Hoai Thu, 2014). Therefore, the research hypothesis is:

*H2: Financial capacity has a positive relationship with the competitiveness of retail banking services*

Carmeli and Tishler (2004) argued that to properly control the performance of an organization, it is necessary to recognize potential threats and risks, thereby strengthening management according to financial goals and accountability. Risks in retail banking are unexpected events that, when occurring, will lead to a loss of the bank's assets, a decrease in the actual profit compared to expected or banks must spend a certain amount of money to complete a certain financial task. Banking is one of the sectors facing the most risks because all activities are related to money. In the context that all types of risks are closely related and interact with each other, they can cause great losses to the commercial banking system. Therefore, risk management plays a very important role to help the bank to defend against outside attacks and to thrive in the long term. Tran Thi Hang Ni (2016) supposes that risk management ability affects business performance of commercial banks. To improve the competitiveness of retail banking services, Vu Hong Thanh (2020) offers a group of solutions for risk management and building a digital ecosystem of retail banking services. Therefore, the research hypothesis is:

*H3: Risk management has a positive relationship with the competitiveness of retail banking services*

A commercial bank can enhance the competitiveness of retail banking services through trade promotion activities such as advertising, sales promotion, personal selling, public relations, and

direct marketing. Porter (1985) affirmed that promotion makes a difference for banking products and services. Each bank has different sales promotion methods such as direct advertising, advertising through mass media such as television, radio, internet. Promotions improve sales significantly (Das and Kumar, 2009) but tend to attract consumers towards bank switching rather than loyalty in the long run. Doan Thi Thuy Anh (2016) provides three out of seven factors that have the strongest impact on the competitiveness of retail banking services including promotion, distribution network, and human resources. Therefore, the research hypothesis is:

*H4: Promotion program has a positive relationship with the competitiveness of retail banking services*

Organizational culture includes “values”, “beliefs” and “standards” that influence the thinking and behavior of everyone in the organization. Barney (1986) asserted that organizational culture is an important source of competitive advantage. He studied the intangible factors and the interaction between them on the performance of firms in the public sector in Israel. The result of the multivariate analysis shows that the organization’s performance can be explained by six intangible organizational factors (managerial capacity, human capital, internal audit, industrial relation, organizational culture, and reputation organization perception) and their interactions. The research by Chen and Lin (2020) showed that organizational culture affects both competitiveness and productivity. Therefore, the research hypothesis is:

*H5: Organizational culture has a positive relationship with the competitiveness of retail banking services*

The study of Zhao et al. (2019) extended the examination of the relationship between social responsibility and competitive advantage. The results showed that social responsibility could positively affect competitive advantage directly and indirectly through mediating variables on the structure and relational aspects of competitive advantage. In a dynamic environment, social responsibility indirectly creates competitive advantages by enhancing dynamic capabilities, such as the ability to integrate resources and the ability to organize learning, but not by the ability to innovate and transform. Ruiz and García (2021) indicated the impact of corporate social responsibility on the bank reputation of leading banks in the United Kingdom and Spain. The results showed the ability of CSR to improve a banking reputation in an unstable financial system. Therefore, the research hypothesis is:

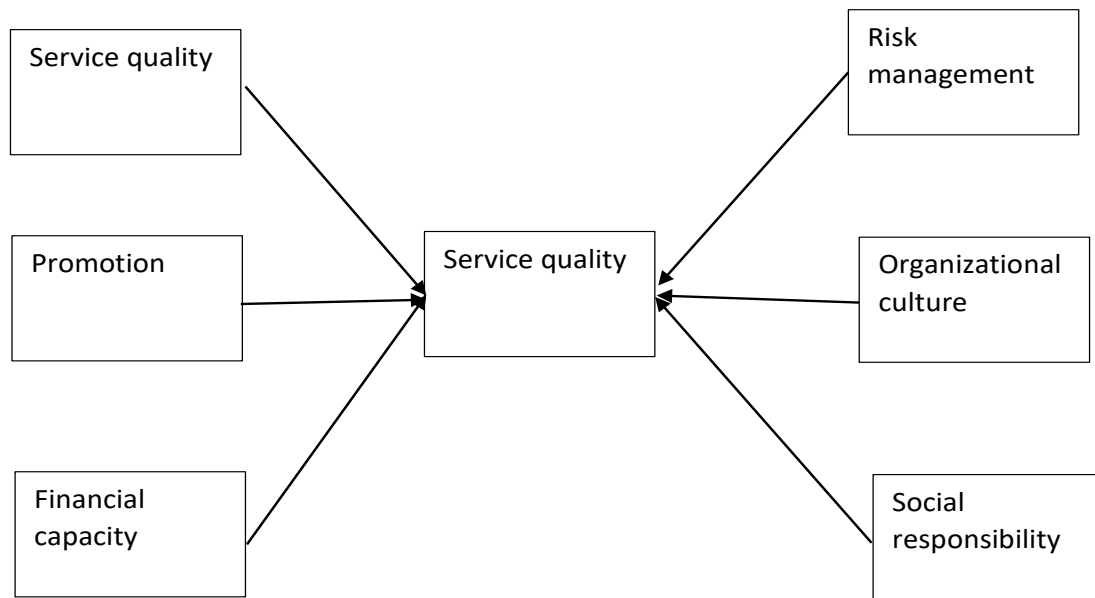
*H6: Social responsibility has a positive relationship with the competitiveness of retail banking services*

### **3. RESEARCH METHODOLOGY AND RESEARCH DESIGN**

The study used the survey method to collect primary data. The questionnaires are designed based on an overview of previous studies related to the competitiveness of banking services and in accordance with the research objectives. The factors and scales are built from related studies. The survey includes two parts. The first part is general information about customers such as age, region, education, income, occupation, and retail banking services used. The second part of the survey is the customer’s assessment of the factors affecting the competitiveness of Vietinbank’s retail

banking services, including 06 independent variables and 01 dependent variable (competitiveness in retail banking services). The items scale for factors is built based on foreign studies in the appendix. Customers’ response is measured through the questionnaire on a 5-point Likert scale ranging from “strongly disagree” to “strongly agree”.

**Figure 1: Research Model**



*Source: Researchers proposed*

The research is conducted through three phases as follows:

**Phase 1:** Respondents are customers who have been using one or more retail banking services of VietinBank. Hair et al. (2010) suggested that the minimum sample size should be in the ratio of 5:1, or 5 observations for an independent variable. Thus, if there are 10 independent variables participating in the regression, the minimum sample size will be  $5 \times 10 = 50$ . However, for the regression results to have higher statistical significance, the ideal sample size should be the ratio of 15:1. In other words, the sample size will be 150 observations or more. The research period of the study is from January to May 2021. We distribute 1800 survey questionnaires to 6 provinces and cities representing the North, Central, and South regions. Sampling method is simply random. The number of reasonable survey questionnaires collected is 1659 customers.

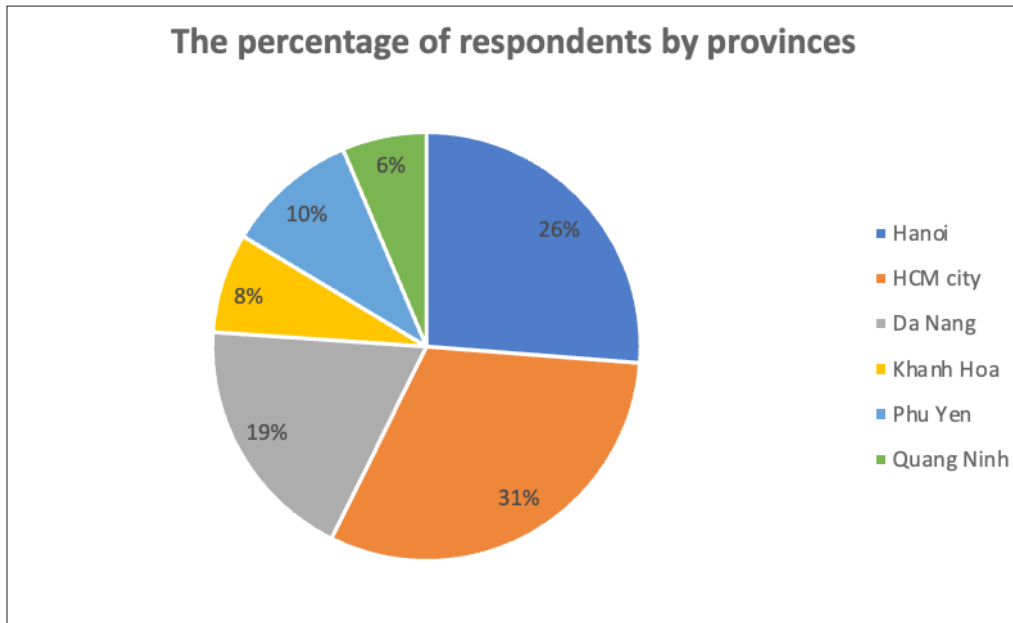
**Phase 2:** The variables are tested by Cronbach’s Alpha coefficient to analyze the reliability of the scale and Exploratory Factor Analysis to reduce many observed variables into a set of factors but still contain most of the information of the original set of variables. All data collected from the questionnaire are coded, processed by SPSS 20.0. The total correlation coefficient is  $\geq 0.3$  and Cronbach’s Alpha coefficient is  $\geq 0.7$  which ensures the reliability of the scale. Exploratory factor analysis (EFA) with factors loading of all observed variables higher than 0.5 are performed.

**Phase 3:** The study uses OLS linear regression to test the relationship among the factors in the model.

## 4. FINDINGS

### 4.1. Data description

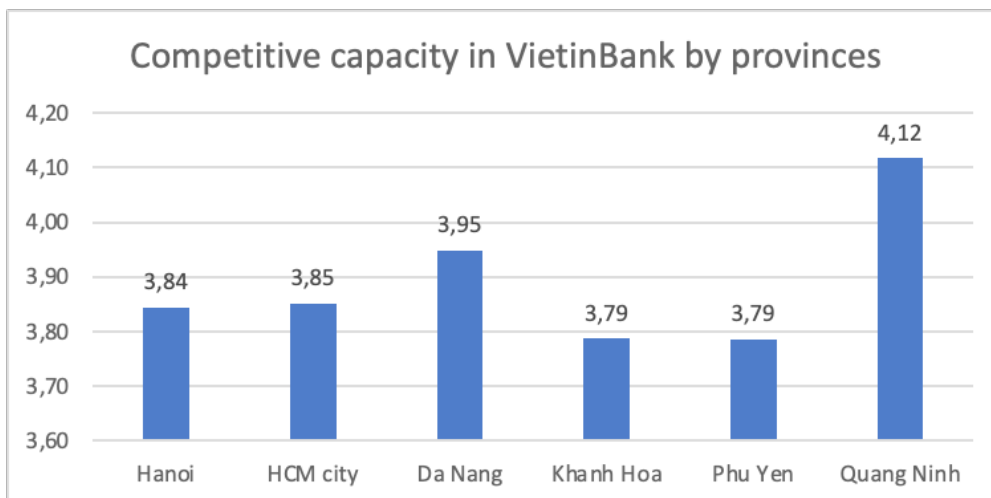
**Figure 2: The percentage of respondents by provinces**



*Source: The researchers' collecting data*

There are 6 cities/provinces surveyed located in 3 regions of North, Central, and South of Vietnam including Hanoi, Quang Ninh, Da Nang, Khanh Hoa, Phu Yen, and Ho Chi Minh city. In general, the percentage of customers participating in the survey is quite similar in the three regions of North, Central, and South of Vietnam with 32%; 37%, and 31%, respectively. Customers participated in the survey are mainly from 3 big cities: Hanoi (26%), Ho Chi Minh City (31%) and Da Nang (19%). These are 3 cities with dense populations with developed socio-economic activities.

**Figure 3: Competitive capacity in VietinBank by provinces**



*Source: The researchers' collecting data*

The bank's retail banking competitiveness of VietinBank is measured on a 5-point Likert scale that increases from 1 to 5 with 1-strongly disagree and 5-strongly agree. Figure 3 reveals that customers rate the competitiveness of retail banking services is at the highest level in Quang Ninh (4.12), followed by Da Nang (3.95) and Ho Chi Minh City (3.85). The competitiveness level of retail banking services in Khanh Hoa and Phu Yen provinces is the same, at 3.79. And the special thing is that customers rate the competitiveness of retail services in Hanoi is lowest at 3.84. Therefore, Vietinbank's branches in Hanoi need to improve the quality of retail service to improve their competitiveness compared to other provinces across the country.

**Table 1: Information about customers surveyed in VietinBank**

Measure	Value	Frequency	Percent
Gender	Female	881	53.1
	Male	778	46.9
Age	<20 years old	99	6.0
	20-30	470	28.3
	30-40	586	35.3
	40-50	314	18.9
	50-60	138	8.3
	≥ 60 years old	52	3.1
Education	High school	211	12.7
	Intermediate/College	320	19.3
	University	946	57.0
	Postgraduate	182	11.0
Income	< 10 million VND	510	30.7
	10-20 million VND	647	39.0
	20-30 million VND	314	18.9
	30-40 million VND	110	6.7
	≥ 40 million VND	78	4.7
Period of using time	< 1 year	210	12.6
	1-3 year	438	26.4
	3-5 year	429	25.9
	≥ 5 years	582	35.1

*Source: The researchers' collecting data*

In the data, the proportion of males and females is 47% and 53%, respectively. It can be seen that the number of males and females participating in the survey is quite balanced. This gender difference can lead to the difference in attitudes, which in turn affects their evaluation on banking competitiveness.

In the total number of customers participating in the survey, the age group from 30 to under 40 years old has accounted for the highest percentage (35%), which is followed by the age group from 20 to under 30 years old (28%) and the age group 40 to under 50 years old (19%). The rest percentage are age groups under 20 years old (6%), 50 to under 60 years old (8%), and from 60 years old and above with the proportion (3%). It can be said that the age of customers using retail banking services at VietinBank is quite diverse, mainly young people from 20 to under 40 years old. This may affect the consumer's behavior and decision to choose banking products and services. With customers mainly young people, who prefer to use technology and easily adapt to digital transformation, VietinBank can research to promote digital banking and increase sales via electronic channels as well as develop many digital applications.

Survey participants are customers using VietinBank's services, so their education levels are quite diverse. Out of a total of 1,659 people surveyed, 946 people have university degrees, accounting for the highest proportion (57%). In addition, the number of people with an intermediate/college degree is 320 people, equivalent to 19%. The remaining percentage of customers who completed high school or postgraduate school has not much difference, accounting for 13% and 11%, respectively.

In terms of income, about 70% of the customers who participated in the survey have an income of less than 20 million. Specifically, income level below 10 million is 31% and income level from 10 to under 20 million is 39%. The rate of people with the income level from 20 to under 30 million is 19%. The remaining percentage of customers with income level from 30 to under 40 million and from 40 million and above is 6% and 5%, respectively.

In terms of time using banking services at VietinBank, most survey respondents have a long-term attachment to services at VietinBank. The percentage of customers who have used the service for more than 5 years is 35%, which is followed by customers using the service from 1 to less than 3 years (26.4%) and from 3 to 5 years (25.9%). Customers using the service for less than 1 year account for only 13%. It shows that customers are quite familiar with retail services at VietinBank, from which they can completely have detailed and objective assessments about the determinants affecting the competitiveness of retail banking services at VietinBank.

**Table 2: Period of using retail service of customers by different ages**

Time using service	<20	20-30	30-40	40-50	50-60	≥60	Grand Total
< 1 year	60	82	39	15	11	3	210
1-3 year	33	182	139	63	17	4	438
3-5 year	2	141	145	98	37	6	429
≥ 5 years	4	65	263	138	73	39	582
Grand Total	99	470	586	314	138	52	1659

*Source: The researchers' collecting data*

Among those who have used the service for more than 5 years, customers are mainly between the age of 30 and under 50 (68.9%). For the period from 3 to 5 years, customers are aged 20-40 years old (66.7%). For the period from 1 to 3 years, customers are mainly aged 20-40 years old

(73.3%). For the period under 1 year, customers are mainly aged under 30 years old (67.6%). This reveals that most of VietinBank's long-term customers are adults between 30-50 years old.

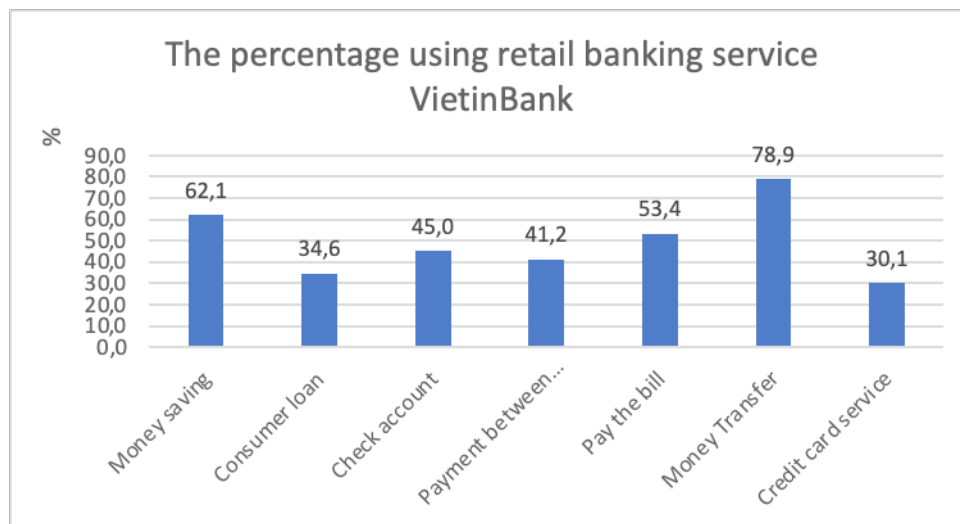
**Table 3: Period of using retail service of customers by different income**

Time using service	< 10 million VND	10-20 million VND	20-30 million VND	30-40 million VND	≥ 40 million VND	Grand Total
< 1 year	136	45	13	9	7	210
1-3 year	156	189	75	8	10	438
3-5 year	94	186	96	41	12	429
≥ 5 years	124	227	130	52	49	582
Grand Total	510	647	314	110	78	1659

*Source: The researchers' collecting data*

In terms of income, with two groups of customers with average income (10 to less than 20 million and 20 to less than 30 million) and high income (from 30 million or more), most of them use the service for 3 to 5 years or more than 5 years. The group of customers with low-income under 10 million have short time using retail service mainly under 3 years.

**Figure 4: The percentage of customers using retail banking services in VietinBank**



*Source: The researchers' collecting data*

The services most used by customers are money transfer (78.9%), followed by saving (62.1%), bill payment (53.4%), and checking account information (53.4%). These services have high customer demand and are traditional banking services. Therefore, the bank can improve the competitive quality of these services to gain new customers, thereby expanding market share and cross-selling other products and services.

#### 4.2. Estimation results

The research is tested by a reliability scale with Cronbach's Alpha coefficient. By using Exploratory Factor Analysis (EFA) with the factor loading of observed variables higher than 0.5

and items of the factor having high convergence, there are 7 factors performed in Table 4. The factors with factor loading less than 0.5 are removed from the model.

**Table 4: Reliability and convergence of factors**

Constructs	Scale items	Cronbach's Alpha	Factor loading
Service quality	Serqual_2	0.865	0.824
	Serqual_3		0.798
	Serqual_1		0.781
	Serqual_4		0.706
Risk management	Risk_2	0.899	0.884
	Risk_1		0.839
	Risk_3		0.794
Organizational culture	Cult_4	0.900	0.800
	Cult_5		0.793
	Cult_6		0.764
	Cult_2		0.759
	Cult_3		0.731
	Cult_1		0.663
Financial capacity	Fincap_2	0.924	0.973
	Fincap_1		0.889
	Fincap_3		0.862
	Fincap_4		0.711
Promotion	Promo_3	0.855	0.861
	Promo_2		0.857
	Promo_5		0.693
	Promo_4		0.544
	Promo_1		0.534
Social Responsibility	Social_4	0.871	0.915
	Social_3		0.861
	Social_5		0.622
Competitiveness	Compete_3	0.923	0.905
	Compete_2		0.867
	Compete_1		0.821
	Compete_4		0.792

*Source: The researchers' collecting data*

Table 4 shows that Cronbach's Alpha for service quality is 0.865; Risk management is 0.899; Organizational culture is 0.900; Financial capacity is 0.924; Promotion is 0.855; Social



Responsibility is 0.871; Efficiency is 0.923. This showed that the scales used for factors are appropriate. The result of the EFA scales with Promax rotation shows the total explained variance (66.789%) of the variation of the sample, and the Eigenvalues stop is 1.019. Barlett’s test has the significance level Sig=0.000 and KMO =0.953. Besides, factor loading is satisfactory and has very high convergence.

**Table 5: Correlation coefficient matrix**

		Serqual	Fincap	Promo	Risk	Cult	Social	Effi
Serqual	Pearson Correlation	1	0.298**	0.439**	0.363**	0.473**	0.324**	0.314**
	Sig. (2-tailed)		0.000	0.000	0.000	0.000	0.000	0.000
	N	1659	1659	1659	1659	1659	1659	1659
Fincap	Pearson Correlation	0.298**	1	0.531**	0.572**	0.548**	0.630**	0.623**
	Sig. (2-tailed)	0.000		0.000	0.000	0.000	0.000	0.000
	N	1659	1659	1659	1659	1659	1659	1659
Promo	Pearson Correlation	0.439**	0.531**	1	0.555**	0.636**	0.514**	0.509**
	Sig. (2-tailed)	0.000	0.000		0.000	0.000	0.000	0.000
	N	1659	1659	1659	1659	1659	1659	1659
Risk	Pearson Correlation	0.363**	0.572**	0.555**	1	0.648**	0.627**	0.595**
	Sig. (2-tailed)	0.000	0.000	0.000		0.000	0.000	0.000
	N	1659	1659	1659	1659	1659	1659	1659
Cult	Pearson Correlation	0.473**	0.548**	0.636**	0.648**	1	0.666**	0.650**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000		0.000	0.000
	N	1659	1659	1659	1659	1659	1659	1659
Social	Pearson Correlation	0.324**	0.630**	0.514**	0.627**	0.666**	1	0.711**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000		0.000
	N	1659	1659	1659	1659	1659	1659	1659
Compete	Pearson Correlation	0.314**	0.623**	0.509**	0.595**	0.650**	0.711**	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	
	N	1659	1659	1659	1659	1659	1659	1659

\*\* . Correlation is significant at the 0.01 level (2-tailed).

*Source: The researchers’ collecting data*

Correlation analysis (Pearson) shows the appropriateness when including components into the regression model. Pearson correlation coefficient (r) is used to quantify the closeness of the linear relationship between two quantitative variables. Table 5 shows that the correlation coefficient r of all 7 variables (Service quality, Risk management, Organizational culture, Financial capacity, Promotion, Social Responsibility, Competitiveness) have a strong linear relationship. Table 5

shows that the variables in the model are positively correlated with each other (linear correlation coefficients all have positive signs) and are statistically significant with very small sig values (all sig < 0.01)

**Table 6: Results of determining the fit of the regression model**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.739	0.546	0.545	0.460	1.671

*Source: The researchers' collecting data*

After Exploratory Factor Analysis and Correlation analysis, six independent variables and one dependent variable are included in the model. Regression analysis will determine the relationship between the dependent variables and the independent variable and consider the multicollinearity between the independent variables. The analytical results show that the value of  $R^2 = 0.546$  and  $R^2$ -adjusted  $R^2 = 0.545$ . It means that 54.5% of the variation in the competitiveness of retail banking services is explained by independent variables in the research model. The value of Durbin-Watson test=1.671, so the model does not have autocorrelation.

**Table 7: Result of ANOVA test**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	421.128	6	70.188	331.436	.000b
	Residual	349.843	1652	0.212		
	Total	770.971	1658			

*Source: The researchers' collecting data*

The results of ANOVA analysis show that the sig value of the F-test is  $0.000 < 0.05$ . Thus, the linear model is suitable and can be generalized to the population.

**Table 8: Linear regression analysis results**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	0.212	0.102		20.071	0.038		
	Serqual	0.057	0.021	0.053	20.731	0.006	0.742	1.347
	Fincap	0.290	0.022	0.297	130.358	0.000	0.555	1.802
	Promo	0.011	0.027	0.009	0.404	0.686	0.521	1.919
	Risk	0.164	0.024	0.162	60.858	0.000	0.591	1.692
	Cult	0.267	0.029	0.227	90.048	0.000	0.536	1.865
	Social	0.247	0.024	0.231	100.344	0.000	0.551	1.816
	Time	-0.016	0.011	-0.024	-10.455	0.146	0.993	1.007

*Source: The researchers' collecting data*

Table 8 shows five hypotheses are supported, and one hypothesis is rejected. The estimation results show that there are 5 factors affecting the competitive capability of VietinBank with the

significance level 1% including service quality, financial capacity, risk management, organizational culture, and social responsibility. The finding indicates that financial capacity is the factor that strongly affects the competitive capacity of retail banking services in VietinBank (standardized coefficient is 0.297), which is followed by social responsibility (standardized coefficient is 0.231). Meanwhile, the standardized coefficients for organizational culture and risk management are 0.227 and 0.162, respectively. Service quality has the smallest effect on competitive capacity (standardized coefficient is 0.053). The standardized coefficient of time using service is negative at the significance level 5%. It implies that customers having higher income and shorter time using service evaluate the competitiveness of retail banking services better. This is suitable because young customers having a short time using banking services are more easy-going than customers having a long time using.

The independent variables have Variance Inflation Factor (VIF) < 2. Therefore, it can be confirmed that the factors in the model all achieve discriminant value and the model does not have multicollinearity. The regression model to evaluate the impact of factors on the competitiveness of retail banking services of Vietinbank is rewritten as follows:

$$\text{Competitiveness} = 0.053 * \text{Service quality} + 0.297 * \text{Financial capacity} + 0.162 * \text{Risk management} + 0.227 * \text{Organizational culture} + 0.231 * \text{Social responsibility} - 0.024 * \text{Time using service}$$

## 5. CONCLUSION

The main purpose of this study is to analyze the competitive capacity of retail banking services in VietinBank and identify determinants affecting competitive capacity. By using (Ordinary Least Square) OLS regression for a sample data of customers, the research finds five factors have a positive impact on the competitiveness of retail banking services in VietinBank including service quality, financial capacity, risk management, organizational culture, and social responsibility. The finding reveals that financial capacity is the factor that strongly affects competitive capacity of retail banking service, which is followed by organizational culture, social responsibility, and risk management. Service quality has the smallest effect on competitive capacity. Time using service also affects the competitiveness of retail banking services.

VietinBank needs to focus on factors having a positive impact on competitiveness including service quality, financial capacity, risk management, organizational culture, and social responsibility. The bank should continue to improve service quality by diversifying retail services with competitive prices along with professional employees to serve customers better. Service providers should focus on bringing convenient services to customers because the products usually do not have much difference among competitors. Bank staffs need to pay more attention to interpersonal skills for understanding and providing personalized services for customers. Better service quality helps the bank strengthen relationships with old customers, attract new customers, thereby maintaining long-term relationships with customers and increasing customer satisfaction as well as expanding market share. Financial capacity is to ensure the minimum capital adequacy ratio as regulated by the State Bank and to ensure the safety of the bank's own operations during the credit operation process. Increasing capital will allow banks to invest in technology development, human resource

training, and expand distribution channels. These are also indispensable factors if the bank wants to improve the competitiveness. Retail banking has many potential risks. Risk management activities ensure safety in transactions. Having a risk control system through a technology platform helps the bank deal with risk incidents and improve its competitiveness compared to other banks. Good risk management also helps the bank increase its financial ratios and financial capacity. Organizational culture is improved by increasing the high involvement of bank staff in processes and decisions so that employees are committed and have a high sense of responsibility to the bank. VietinBank needs to have a common set of values, beliefs, and symbols, and have a high degree of coordination and consistency among employees and management levels in the bank. The strengthening of social responsibility does not stop at the implementation of the full tax obligations to the state and ensuring customer benefits. Social responsibility through the bank's participation in community programs helps to improve its public image, thereby gaining more new customers.

In the context of international economic integration, Vietnam Government is implementing international commitments about opening banking services and aiming at building a competitive banking system on an international level according to the legal framework. To improve the competitiveness of the Vietnamese commercial banking system and promote sustainable development of the banking industry in the coming period, VietinBank needs to expand the most effective customer network based on the relationships with existing customers of the bank. When existing customers satisfy with banking services, they will introduce potential customers to the bank. In addition, cross-sales is also very effective as the bank exploits the needs of existing customers and sells other products and services that customers have not used. Improving competitiveness will help the bank sustain in the short term and develop sustainably in the long term against negative shocks that the economy may cause.

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#### APPENDIX: SCALE OF FACTORS

Factor	Items	References
Service quality	Simple transaction procedures for customers	Parasuraman et al. (1988) Sabrina Tazreen (2012)
	Fast execution time for retail banking transactions	
	The bank has a good customer care policy	
	The service attitude of the bank staff is polite, friendly, considerate, and cheerful	
Financial capacity	The bank is willing to provide overdraft facilities	Kesseven Padachi and Carole Howorth (2012)
	The bank requires collateral as part of the loan request	
	Tangible assets can be used as collateral	
	Customers easily access bank loans	
Risk management	The Bank is always interested in risk management activities to ensure business operations	Scott Dellana et al. (2021)
	The bank can handle risk incidents well in the business process	
	The bank has implemented a risk control system through a technology platform	

Promotion	Customers can easily find information about the bank's retail services	Mouna Damak Turki (2017)
	The bank has impressive forms of advertising	
	Customers are satisfied with the bank's promotions	
	Promotions with retail services motivate customers to use products	
	Beautiful and impressive retail banking brochures	
Organizational culture	High involvement of bank staff in processes, decisions, and performance	Carmeli and Tishler (2004)
	The employees are committed and have a high sense of responsibility to the bank	
	The bank has a common set of values, beliefs, and symbols	
	There is a high degree of coordination and consistency among employees in the bank	
	The bank learns the factors of the external environment and makes appropriate responses	
	The bank learns the factors of the external environment and makes appropriate responses	
	The bank's goals are clear and relevant to all employees	
	The bank tries its best to achieve the goal	
Social Responsibility	The Bank is committed to ethical principles	Teodoro Rafael Wendlandt Amezaga et al. (2017)
	The bank guarantees the legitimate rights and interests of employees	
	The bank ensures safe transactions and benefits for customers	
	The bank participates in programs for the community	
	The bank allocates resources to charity activities	
Competitiveness	The bank achieves good growth rate and desired profit	Hồ Xuân Tiến (2020)
	The bank expands many new branches	
	The bank regularly improves retail service delivery efficiency	
	The bank achieves customer satisfaction	

# SOLUTIONS TO DEVELOP VIETNAM'S HUMAN RESOURCES IN THE CONTEXT OF THE 4.0 TECHNOLOGY REVOLUTION

Dr. Vu Quoc Dung<sup>1</sup>

**Abstract:** *The 4th Industrial Revolution (Industry 4.0) is the foundation for the economy to strongly transform from a resource-based model, low-cost labor to a knowledge-based economy; fundamentally change the concept of technological innovation and equipment in production lines. At the same time, Industry 4.0 will create great changes in labor supply and demand. Economists and scientists warn that in this revolution, the labor market will be seriously affected by the supply and demand for labor as well as the labor structure. In order to make good use of opportunities and overcome risks and challenges from the Industrial Revolution 4.0, it's very important to Vietnam to improve human resources. For Vietnam, so far, the economy has relied heavily on industries that use cheap labor and exploit natural resources, and the qualifications of workers are still backward. This is one of the biggest challenges in the face of Industry 4.0. Therefore, the study uses the method of synthesis and analysis, focusing on analyzing the current situation of human resources in Vietnam, the impact of the Fourth Industrial Revolution on the development of human resources in Vietnam, and at the same time refer to experience of some countries in the world in formulating their national human resource development strategies. Therefore, the study proposes a number of important solutions to develop Vietnam's human resource in the future.*

**Keywords:** *human resources, human resource development strategy, industrial revolution 4.0, Vietnam.*

## 1. INTRODUCTION

Human resources are considered the most important asset of any country. (Theodore W. Schultz, 1961). Investing in people has always been a necessity in developing country because there must be talented heads of government, senior leaders, excellent experts in all fields of science and technology, natural sciences, social sciences and highly skilled workers, etc. (Frederick Harbison et al., 1964). Human Resource Development (HRD) is “the process of creating and using comprehensive human capacity for the self-improvement of each person and the development of the organization in which people operate. “. At the macro level, developing national human resource is to improve both the quantity and quality of a country's human resource structure in all aspects, including mental health, physical health, skills and knowledge. To do this, each country needs to develop a national human resource development strategy through a system of policies,

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plans and programs based on existing resources to aim for the future by training and improving the quality of human resources, in order to serve long-term economic development goals (Pham Xuan Truong et al., 2019: 13-14). Many countries in the world as well as in Asia have been very successful in economic development through increasing investment and developing national human resource development strategies such as the UK, Korea, the US, Japan, and Singapore. , Malaysia,... (Kim, 1986:26-28). These experiences will be valuable lessons for the economic development path of developing countries in the context of globalization, including Vietnam.

The industrial revolution 4.0 has taken place strongly around the world that has brought great opportunities but also challenges. Vietnam labours are young and cheap. Meanwhile, they still cannot meet the innovation requirements of the economy. Moreover, this revolution can also create a volatility in the labor market when many workers are at risk of losing their jobs, as production processes are automated, as well as the Many industries tend to use intelligent robots to replace humans (Nguyen Thi Thanh Binh, 2019). Therefore, setting up a national human resource development strategy to orient and create high-quality human resources to meet the needs of the labor market in the new period is a really urgent and important task. This study focuses on analyzing the current situation of human resources in Vietnam, the impact of the Fourth Industrial Revolution on human resource development in Vietnam, and at the same time consults the experiences of some countries around the world on the process of human resource development in Vietnam. their human resource development. So, the study proposes a number of important solutions to develop Vietnam's human resource in the context of Industry 4.0.

## 2. RESEARCH METHODS

This study uses a qualitative method to examine the current situation of human resources in Vietnam, the impact of the Fourth Industrial Revolution on human resource development in Vietnam, and at the same time refer to the experiences of some countries around the world. about developing their national human resource development strategy. From there, the study proposes some important contents in Vietnam's national human resource development strategy in the new period. The main qualitative analysis methods used in this study are the scientific observation method, the empirical summary analysis method, the taxonomy method and the theoretical systematization. The author has used official statistics issued by state authorities such as: **Statistical Yearbook 2021 of the General Statistics Office of Vietnam**, United Nations Economic and Social Department, Statistical Report of the Institute of Information and communication strategy, Economic Census conducted by the General Statistics Office, Report on the assessment of the current situation of human resource quality in the construction industry by the Vietnam Construction General Association... The analysis of the situation is mainly in two comparative aspects: time and space. In addition, the research focuses on analyzing the impact of the industrial revolution 4.0 on the development trend of industries and the quality of human resources in Vietnam. On the basis of an overview of the theories, practical situation, and experience of other countries in the world on human resource development, the study points out solutions for developing human resources of Vietnam in the context of Industry 4.0.

### 3. RESEARCH RESULTS

#### 3.1. The current situation of human resources in Vietnam

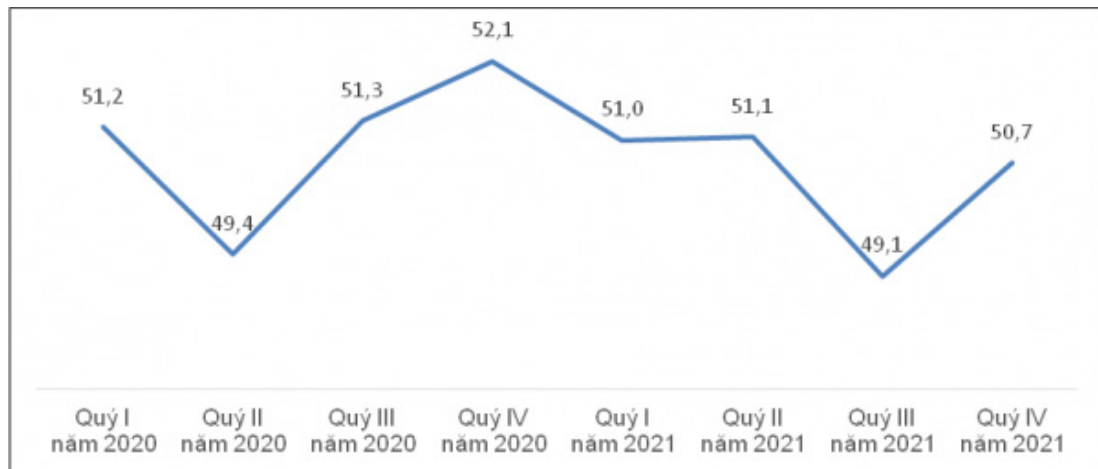
Currently, the population of Vietnam as of June 24, 2022 is 98,939,639 people. This is the latest data from the United Nations (UN - United Nations). Vietnam's population currently accounts for 1.25% of the world's population. Vietnam is ranked 15th in the world in the population ranking of countries and territories in the world. The population density of Vietnam is currently 317 people/km<sup>2</sup> with a total land area of 310,060 km<sup>2</sup>. In which, 37.34% of the population lives in urban areas (36,346,227 people in 2019). The average age in Vietnam is currently 32.9 years old. This is an advantage in terms of the number of human resources in Vietnam.

Năm	Dân số	% thay đổi	Thay đổi	Di cư	Tuổi trung bình	Tỷ lệ sinh	Mật độ	% dân thành thị	Dân thành thị	% thế giới	Thế giới	Hạng
2020	97.338.579	0,91	876.473	-80.000	32,50	2,06	314	37,70	36.727.248	1,25	7.794.798.739	15
2019	96.462.106	0,96	916.144	-80.000	30,90	1,98	311	37,00	35.686.730	1,25	7.713.468.100	15
2018	95.545.962	1,00	945.314	-80.000	30,90	1,98	308	36,30	34.658.961	1,25	7.631.091.040	15
2017	94.600.648	1,03	960.226	-80.000	30,90	1,98	305	35,60	33.642.498	1,25	7.547.858.925	15
2016	93.640.422	1,04	963.346	-80.000	30,90	1,98	302	34,90	32.635.787	1,25	7.464.022.049	15
2015	92.677.076	1,05	941.885	-80.000	30,50	1,96	299	34,10	31.635.369	1,26	7.379.797.139	14
2010	87.967.651	0,97	826.998	-159.994	28,50	1,93	284	30,60	26.910.696	1,26	6.956.823.603	13
2005	83.832.661	0,96	784.450	-130.200	26,40	1,92	270	27,40	23.000.555	1,28	6.541.907.027	13
2000	79.910.412	1,30	999.990	-43.200	24,20	2,25	258	24,50	19.568.590	1,30	6.143.493.823	13

*(Vietnam population table from 2000 to 2020. The data are adjusted according to the average calculation of the United Nations Department of Economic and Social Affairs. )*

#### **\*Number of labors:**

The labor force aged 15 and over in the fourth quarter of 2021 was 50.7 million people, an increase of about 1.7 million people compared to the previous quarter and a decrease of 1.4 million people compared to the same period last year. Compared to the previous quarter, the labor force in both rural and urban areas increased by about 0.8 million people and the female labor force increased more than the male labor force (0.9 million people compared to the previous quarter). with 0.8 million people). Compared to the same period last year, the labor force decreased sharply in rural areas (decreased by nearly 2.2 million people) and decreased mainly among men (decreased by about 0.8 million people).



(Workforce quarters, 2020 and 2021 - General Statistics Office press release ( *Unit: Million people*))

The labor force participation rate in the fourth quarter of 2021 was 67.7%, up 2.1 percentage points from the previous quarter and down 2.6 percentage points from the same period last year. The labor force participation rate of women is 61.6%, 12.7 percentage points lower than that of men (74.3%). The labor force participation rate in urban areas is 65.3%, while that in rural areas is 69.3%. Looking at age groups, the labor force participation rate in urban areas is lower than in rural areas in most age groups, with the largest difference being observed in the age group 55 years and older (urban and urban areas): 32.7%; rural: 46.6%) and 15-24 years old group (urban: 34.5%; rural: 45.2%). This shows that people in rural areas enter the labor market earlier and leave the market much later than in urban areas; This is a typical feature of the labor market with a high proportion of laborers participating in the agricultural sector.

The percentage of trained workers with degrees and certificates in the fourth quarter of 2021 was 26.1%, unchanged from the previous quarter and 0.3 percentage points higher than the same period last year.

Out of a total of 24.2 million people aged 15 years and older who did not participate in the labor market (outside the labor force) in the fourth quarter of 2021, there were 13.2 million people of working age, most concentrated in 15-19 years old group (nearly 5.5 million people).

#### \* Number of employed labors

Employed labors aged 15 and over in the fourth quarter of 2021 were 49.1 million, an increase of 1.82 million compared to the previous quarter and a decrease of 1.79 million compared to the same period last year. Employment in urban areas was 17.9 million people, an increase of 890.1 thousand people compared to the previous quarter and an increase of 498.9 thousand people compared to the same period last year; the number of employed people in rural areas was 31.1 million people, an increase of 934.5 million people compared to the previous quarter and a decrease of 2.3 million people compared to the same period last year.

In the fourth quarter of 2021, after widespread coverage of the second dose vaccine and social distancing measures were eased, the economy showed signs of recovery. Employment in industry and construction was 16.8 million people, an increase of 1.2 million people compared to the previous quarter and a decrease of 239.0 thousand people compared to the same period last year; the service

sector was 17.9 million people, an increase of 762.5 thousand people compared to the previous quarter and a decrease of 1.9 million people compared to the same period last year. The agriculture, forestry and fishery sector reached 14.3 million people, a decrease of 120.9 thousand people compared to the previous quarter and an increase of 361.1 thousand people over the same period last year.

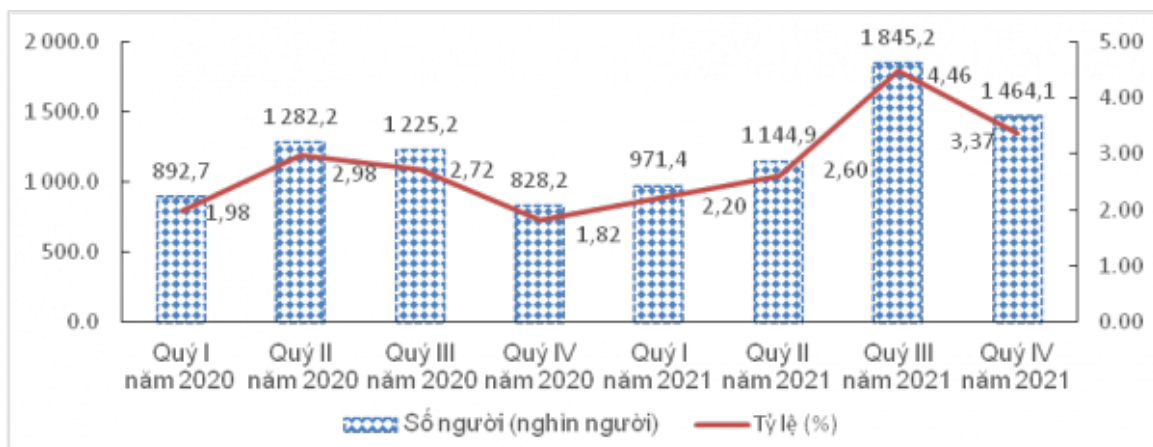
The rate of workers in informal employment <sup>[1]</sup> in the fourth quarter of 2021 was 55.1%, up 0.6 percentage points from the previous quarter and down 0.9 percentage points from the same period last year. The rate of informal employment in urban areas was 47.8%, an increase of 1.6 percentage points compared to the previous quarter and a decrease of 0.2 percentage points compared to the same period last year. village was 61.5%, down 0.3 percentage points compared to the previous quarter and down 0.7 percentage points over the same period last year.

Compared with the third quarter of 2021, the number of employees with informal employment is 19.4 million people, an increase of 1.3 million people, equivalent to an increase of 7.4%; nearly twice as high as that of employed workers. (Employed workers in the fourth quarter of 2021 were 49.1 million people, an increase of 1.8 million people, equivalent to an increase of 3.9% compared to the previous quarter). Thus, after the pandemic storm, many workers have returned to the market and have jobs, but most of them are informal jobs, with job characteristics of precariousness, instability and low income. , do not have a labor contract or have but are not allowed to pay compulsory social insurance, are not allowed to pay allowances and other social benefits. Obviously, the labor market has recovered, but this recovery is not very sustainable.

#### \* Number of unemployed labours

The number of unemployed people in 2021 was nearly 1.5 million, down 381.1 thousand people compared to an increase of 635.9 thousand people over the previous year. The unemployment rate of labors in the fourth quarter of 2021 was 3.37%, down 1.09 percentage points compared to the previous quarter and up 1.55 percentage points over the same period in 2020. The unemployment rate of working-age workers in urban areas is higher than in rural areas (4.06% and 2.95% respectively). This is the third quarter in a row that the labor market has witnessed a higher unemployment rate in urban areas than in rural areas. This situation contrasts with labor market trends in the years before the Covid-19 pandemic.

#### Number of people and underemployment rate in working age, quarters of 2020 and 2021

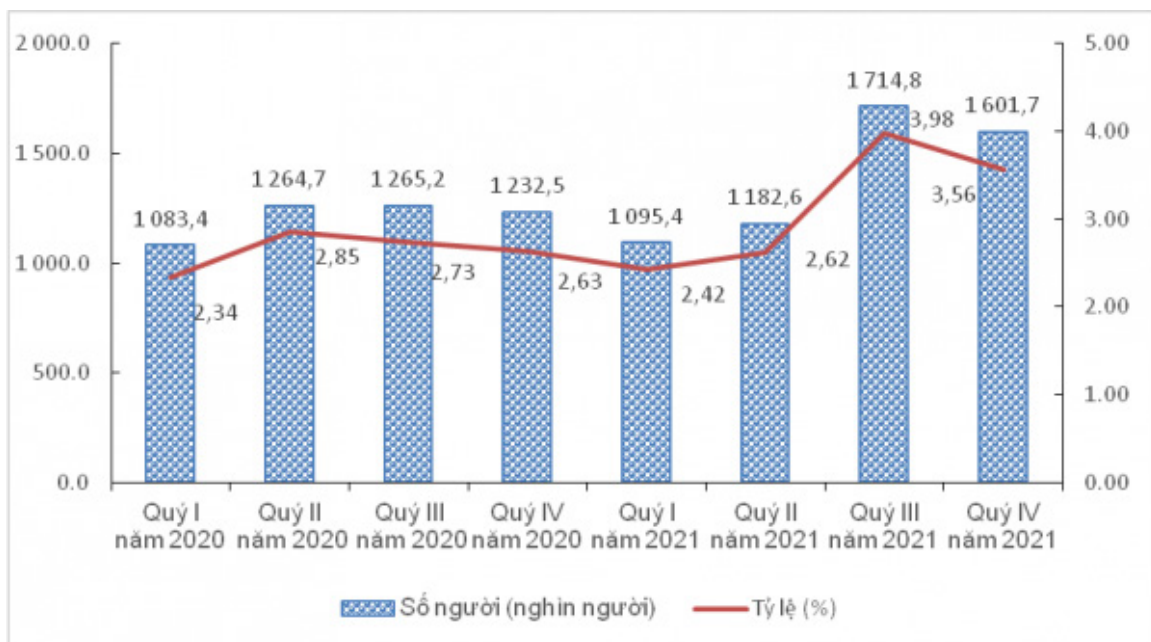


(Statistical Yearbook 2021 of the General Statistics Office of Vietnam)

### \* Unemployment in working age

The number of unemployed people of working age in the fourth quarter of 2021 was more than 1.6 million, a decrease of 113.1 thousand people compared to the previous quarter and an increase of 369.2 thousand people compared to the same period last year. The unemployment rate of working age in the fourth quarter of 2021 was 3.56%, down 0.42 percentage points over the previous quarter and up 0.93 percentage points over the same period last year. The urban age unemployment rate was 5.09%, down 0.45 percentage points from the previous quarter and up 1.39 percentage points over the same period last year.

#### Number of people and unemployment rate in working age, quarters of 2020 and 2021



The unemployment rate of young people aged 15-24 in the fourth quarter of 2021 was 8.78%, down 0.11 percentage points from the previous quarter and up 0.84 percentage points over the same period last year. The youth unemployment rate in urban areas is 13.23%, 6.52 percentage points higher than in rural areas.

Currently, in Vietnam, small and medium-sized enterprises account for the majority (96.7%) of the total number of enterprises in the country (Chu Thanh Hai, 2020), this is the dominant component and the source of resources. most human resources in the economy (Pham Xuan Truong, 2019). In fact, the demand for high-quality human resources for these small and medium-sized enterprises is still limited. However, Vietnam also has large private enterprises such as Vingroup, Thaco, Hoang Anh Gia Lai or enterprises with foreign direct investment such as Samsung Vietnam, Toyota Vietnam, Intel, etc. The industry has a great need for high-quality human resources and in many cases these organizations themselves conduct human resource training.

Strong international cooperation has opened up many opportunities for Vietnam in improving the quality of human resources according to progressive standards in the world. The Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) took effect on January 14, 2019

and the EU-Vietnam Free Trade Agreement (European - Vietnam Free Trade Agreement - EVFTA) takes effect from August 1, 2020 with regulatory standards on labor in trade, ensuring the rights and interests of workers, including the right to be trained. capacity building in the workplace so that employees can take initiative and contribute ideas to the human resource development process.

It can be seen that the main limitations of Vietnamese human resources include:

*Firstly*, Vietnam still lacks high-quality human resources due to inadequate training. Vietnam has built a network of higher education institutions with 237 universities and academies including 172 public schools and 65 non-public schools (private, people-founded, and 100% foreign capital). the data does not include universities and academies in the Security and Defense sector) (Ministry of Education and Training, 2019). However, the program, quality and teaching methods are not uniform, many units still have the situation that the training content is not associated with the reality of the enterprise. In addition, the percentage of people of university age (aged 18 to 29) who attend universities in Vietnam is among the lowest in the world. The proportion of people studying at university in Vietnam is only about 28.3%, while this rate in Thailand is 43% and Malaysia is 48%. Moreover, only about 23% of male students and 9% of female students choose the majors of mathematics, science, engineering and technology, while the majority of students choose to major in economics, leading to a lack of education. shortage of labor resources in the technical sectors (Tran Huynh, 2019, Nga Tran, 2018).

*Secondly*, attracting and using human resources is also difficult when facing an inevitable trend of “brain drain” occurring in Vietnam. The low standard of living and the inadequate remuneration of the domestic working environment have led to many qualified and trained workers having gone abroad, working in more developed countries or studying abroad. students go to school and do not return to work in Vietnam.

*Third*, T appreciates high-quality human resources. The World Bank assesses that Vietnam is lacking in skilled workers and high-level technical workers. The foreign language proficiency of Vietnamese workers is not high, so they face many difficulties in the integration process. The limitations and weaknesses of human resources are one of the main factors affecting the competitiveness of the economy. Research by the Institute of Science, Labor and Society (2016) also shows that the responsiveness of skills due to technological changes of workers in electronic and garment enterprises is very low. Except for safety skills and compliance with labor discipline, the percentage of surveyed enterprises rated very well and very well about the level of skill responsiveness of workers compared to the requirements of new technology (72% for the industry). electronics and 50% in the garment industry), the remaining skills have a relatively low rate of good/very good enterprises, especially for the garment industry. Although rapidly increasing, the scale of skilled labor is still small compared to the requirements of the process of industrialization, modernization and international integration. The number of workers with professional and technical qualifications, even groups with high professional qualifications tend to have good theoretical knowledge, but poor practical capacity and adaptability in the competitive industrial environment. ; additional time or refresher training is still required to use it effectively. The ability to work in groups, professionalism, and the ability to use foreign languages as communication and working tools of human resources is still limited.

### ***Inadequate training***

The research team analyzes: The current training is not suitable in both quantity and quality. College and university training still accounts for a large proportion. According to the Ministry of Education and Training 's data in 20-20 , there are 1,672.8 thousand students, of which 1,359.4 thousand public students and 313.4 thousand non-public students. This is one of the main reasons leading to the situation of “excess teachers, shortage of workers”. According to the report on thematic monitoring results “Effectively implementing policies and laws on science and technology development to promote industrialization and modernization, period 2005 - 2015 and development orientation in the period” coming” of the National Assembly, Vietnam has 164,744 people engaged in research and development (R&D), of which the number of researchers with college and university degrees is 128,997. If converted into full-time equivalent, the number of R&D staff in Vietnam is only 7 people per ten thousand people. In addition, the lack of orientation of workers in choosing occupations from high school also causes many problems in Vietnam’s labor supply. With the psychology of degrees, most workers choose to study at university or graduate school without paying attention to the demand for human resources as well as vocational training, which leads to the current shortage of teachers and workers. have a university degree but accept to do jobs that do not need technical expertise. Vietnamese students are also not well oriented to the professions that the market needs. An ILO survey (2016) shows that the majority of Vietnamese students choose the economic sector, while the engineering sector has a very large labor demand, but it is not chosen by many students. Science, engineering, technology and math (STEM) majors are chosen by 23% of male students and 9% of female students in Vietnam. Thus, for a basic industry that creates long-term productive capacity like STEM, Vietnamese students do not seem to be too interested and this rate is much lower than the average in ASEAN: 28% of male students and 17% of female students. . Vietnamese students mainly prefer to choose business, commerce, and finance. This to a certain extent shows that the Vietnamese labor market is developing in favor of supporting service industries, but has not yet strongly developed real sectors, creating fundamental added value for the economy. economic.

### **3.2. Future career trends in Vietnam**

Under the impact of the Industrial Revolution 4.0, the demand for labor in industries in Vietnam in the coming years will have many changes. The following industries will tend to develop strongly.

#### ***Information technology industry***

Social networking is exploding all over the world, electronic devices are becoming more and more popular. Although the Information Technology industry in Vietnam is not too strange, the development level of this industry is still more or less limited. According to statistics of the Institute of Information and Communication Strategy, in this industry only about 15% of graduates can meet business needs. In the next 5 years, the whole country needs 411,000 people. That is enough to show that this industry has never stopped “thirst” for human resources. Meanwhile, each year the market only offers 32,000 graduates of IT and IT-related disciplines .

### ***English Language Department***

In the current global integration situation, English is an international language, occupies a very important position and is an indispensable part of job applications as well as applications in life. English language appears in many fields such as foreign economics, foreign language pedagogy, marketing, information technology, banking and finance, etc. In general, English has now become an indispensable part. indispensable in social life, especially in the current situation of globalization and internationalization. This is a really promising field of study.

### ***Business management***

Business administration has always been one of the fields that attract dynamic young people, especially in the trend of international economic integration of Vietnam in recent years. To meet the market demand, business activities and enterprises must constantly develop. Business in Vietnam has never been developed as it is today. According to the results of the 2021 Economic Census conducted by the General Statistics Office, as of December 31, 2020, the whole country has 683.6 thousand enterprises operating in production and business with the number of employees is 14.7 million people. This is an opportunity in terms of the number of jobs in this industry but also poses a huge challenge in terms of the quality of human resources.

### ***Marketing industry***

Marketing is an industry that plays a very important role in the business activities of almost every business organization in the world. The effectiveness of sales activities is greatly influenced by marketing and it also affects the activities of the business in the present and in the future. There are more and more advertising and media companies in Vietnam. Businesses want to sell a lot of goods and products, an indispensable part is how investors bring products to consumers to be able to compete with many competitors. Therefore, the requirement for a team that specializes in customer contact and creativity to sell products is essential. Not only that, the trend of global integration is very hot, so the marketing industry is the easiest industry to apply for today. The survey results of Vietnam's online human resources also show that the marketing industry continues to lead in the 6 areas with the highest demand for human resources.

### ***Construction industry***

Currently, Vietnam is considered as one of the three promising countries for growth in Asia. The overall picture of Vietnam's economy has highlights in many fields, including construction. It can be easily seen that in Vietnam, more and more international-class architectural works are born. High-rise buildings, houses to apartments, road works, railways, public works are also increasing day by day. Infrastructure investment is an urgent and top priority. Therefore, the demand for human resources of the construction industry in the coming time will be very large. An assessment report on the current situation of human resource quality in the construction industry by the Vietnam Construction General Association said that the country currently has more than 7 million workers working in the construction industry. Of these, more than 1 million people are engaged in production in the Building Materials industry. In the coming time, when Vietnam's construction demand is increasing, the number of workers in the construction industry will increase even more. With the current growth rate, the number of laborers working in the construction industry in 2030



could reach about 12-13 million people. The workforce of the building materials industry is also expected to increase to nearly 3 million people. Currently, the percentage of trained construction workers in Vietnam is about 65%. The goal by 2030 is to increase the proportion of trained construction workers to about 75%.

### ***Food Technology***

The food technology industry is considered as an industry of a stable future, an industry of potential. This is one of the fields of study with high application and diversity, especially in modern life. The industry has been especially attractive to young people in recent years. With a population of over 86 million people, an average economic growth rate of about 7.5%/year, the consumption demand of Vietnamese people for processed foods is increasingly large and abundant, especially the demand for food products, about clean products processed safely and delicately. Not only meeting domestic consumption needs, but the food industry also aims to produce and process high-quality products to serve export needs. This is a really potential field of study and quite a large opportunity for employment, especially for female students.

### ***Tourism industry, hotel management***

Tourism is a key economic sector in Vietnam. The country of Vietnam has diverse and rich tourism potential. The hotel and restaurant tourism market in Vietnam is growing stronger and hotter than ever. According to the General Statistics Office, in the first 7 months of 2022, Vietnam welcomed 954,000 international visitors, an increase of nearly 9 times over the same period, the average monthly growth rate of 62%. According to the Vietnam National Administration of Tourism, the business situation is warming up along with the recovery momentum, with the number of businesses registering new and returning in the tourism and service sectors increasing rapidly. According to data from the Ministry of Planning and Investment, in the first 6 months of 2022, the number of newly registered businesses related to the tourism sector has increased impressively, in which: Accommodation and catering services achieved an impressive increase. 3,065 enterprises, up 27.7% over the same period; employment and tourism services reached 3,902 enterprises, up 23.4%. Employment and tourism services reached 2,215 enterprises, up 50.5%. The above figures show that the tourism industry in Vietnam is increasingly developing along with tourist destinations, resorts, and shopping centers to meet the needs of domestic and international tourists.

### ***Electrical and mechanical industry***

The current international integration process is requiring Vietnam - a purely agricultural country as well as many countries in the region to promote the development of industry and electronics. Electricity and mechanics are appearing in most of the products of social life and it is an indispensable necessity. More and more electrical products or mechanical products. Many mechanical companies are lacking human resources, especially the requirements for this industry are not high. According to the forecast of the Vietnam Association of Mechanical Enterprises, by 2022, the mechanical human resource demand will account for about 28% of the total labor force of the country. It is estimated that there are about 14,800 production and business establishments, but only a very few enterprises with more than 1,000 employees. The average annual job demand forecast of the mechanical industry by 2022 is about 8,100. In addition, learners have the opportunity to export labor to developed countries.

### ***Psychosocial counseling***

Along with the development of modern society, the profession of psychological counseling has been developing strongly in Vietnam, attracting a large number of young people. Life is developing more and more, people are more and more busy and worried, making the spirit often under pressure, prone to depression, and psychological disorders. Therefore, psychology becomes more important than ever in its role in helping people have a healthy mind. However, psychology in Vietnam is still young while in developed countries has a history of hundreds of years.

### ***Education industry***

The demand for teachers in the fields of preschool pedagogy, primary pedagogy (mainly English teachers) and nannies... will increase sharply in the next few years because the whole education - training industry is pushing strongly implement the project of universalizing 5-year-old preschool education, and at the same time complete the transformation of semi-public preschools nationwide into a public school model, so it will certainly attract a large number of qualified teachers. be trained.

According to Vietnam's human resource planning for the period 2011 - 2020 and labor and employment survey data and forecast results of the National Center for Employment Services on human resource needs of preschool education to 2020 about 240,000 people; an average increase of 6600 people per year.

The human resource demand of primary education by 2020 is about 522,000 people; average annual increase of 5750 people. Human resource demand of lower secondary education is forecasted to be about 480,000 people by 2020; average annual increase of 9850 people. The human resource demand of high school education by 2020 is about 148,000 people.

With the development of the fourth industrial revolution, a number of industries will be developed in the future related to the fields of artificial intelligence, big data, mobile Internet, and cloud computing technology. , industrial and home robotics, driverless vehicles, drones, 3D printers, nanotechnology, virtual reality, digital treatments and machine learning, application service areas Using internet of things connection, high-tech agriculture. The changing nature of occupations will entail the need for many new skills that require the adaptation of vocational education.

Simultaneously with the appearance of a number of new industries and occupations, there are also some industries and occupations that will be lost. Therefore, the Government of Vietnam needs to research to find a solution to develop human resources in a reasonable and effective way to meet the needs of the economy in the context of the industrial revolution 4.0.

### **3.3. Impact of Industrial Revolution 4.0 on Vietnam's human resources**

The 4th Industrial Revolution with the development trend based on the highly integrated foundation of the digital - physical - biological connection system with the breakthrough of the Internet of Things and Artificial Intelligence is changing the world. fundamentally change the world's production. The 4th Industrial Revolution is characterized by making full use of the pervasive power of digitization and information technology, which is taking place at different

speeds in countries around the world, and is creating a strong impact. , increasing day by day to all aspects of socio-economic life, leading to the change of production methods and forces of society.

In Vietnam, the Industrial Revolution 4.0 has clearly shown through the application of mobile phones in agriculture, the application of geographic information systems (GIS) in farming and fishing or other technologies. satellite and agricultural science; the emergence of technology taxis (grab, Go-Viet, Go-Jek), travel and hotel services (Airbnb,..); retail services (eBay,..); labor and employment services; online advertising services (facebook, google,..), etc. It really gave rise to new relationships in the market, changed the labor contract format, and threatened to disrupt the current labor market. Yes, many businesses when applying new technology have laid off workers, especially middle-aged workers, causing many challenges to the social security system.

Industry 4.0 on the one hand increases economic development, on the other hand changes the structure of employment by occupation in the economy. The application of automation can increase labor productivity and reduce costs; Along with that, it affects the size of the workforce, leading to layoffs, causing workers to move from one industry to another. Some types of jobs are lost, some new jobs are created, the phenomenon of job switching between industries, occupations and between professional and technical qualifications appears. The development of labor relations in new forms between people and machines leads to new forms of labor relations and changes the nature and role of components in labor relations such as labor contracts, collective bargaining... In the next 3 years, under the impact of Industry 4.0, the proportion of untrained laborers of enterprises will be reduced by 4.8%, trained workers will increase by 5.4% and laborers employees with university degrees or higher increased by about 11.3%. The proportion of untrained workers in the leather and related product industry decreased the most, up to 18.1%. Labor-intensive industries such as textiles and garments and manufacturing also saw a significant decrease in the proportion of unskilled workers, at nearly 5%.

### **3.4. Experience in developing national human resources in some countries around the world**

#### **\* Korea**

The economic development of Korea is often referred to as a “Miracle on the Han River” because of the strong economic growth in the mid-twentieth century and the beginning of the twenty-first century, starting from one of the The poorest countries in the world became the world’s number 11 economy and became a full member of the Organization for Economic Cooperation and Development (OECD) in 2016. suffered the consequences of the Korean War (1950 - 1953) and faced severe resource shortages because most of the other mines, industries and electric power production were located in Korea. Fairy (Michael J. Seth, 2017:4). Unable to rely on available natural resources, they had to overcome extreme circumstances by focusing on building and developing human resources for socio-economic development, in which education play a central role. The Korean government has pursued the centralization of NHRD’s strategic direction, and developed a mechanism to monitor the implementation of this strategy (Cho & McLean, 2004, Pham Xuan Truong, 2019:18). Changing the name of the Ministry of Education to the Ministry of Education and Human Resource Development clearly demonstrates the country’s determination to develop human resources (Moon & McLean, 2003).

In each stage of economic growth, the Korean government always sets the top goal that educational institutions need to train the corresponding workforce to meet the needs of the labor market at that time. . Starting with universal primary education, laying the first foundation for the education system, while providing a workforce to work in labor-intensive industries from 1945 to 1945. 1960 (KEDI, 2017: 19-20). Thereafter, educational development policies were focused on secondary and vocational education with the mobilization of both public and private capital. Thanks to this development, the education sector has produced workers with basic skills to work in export-oriented light industry, consumer electronics manufacturing and early stage. of heavy industries (ships, steel, etc.) in the 1960s to mid-1970s. From the mid-1970s to the 1980s, the government focused on improving professional education and developing higher education. aims to train a workforce that can meet the requirements of applying knowledge and practice in industries that require high expertise such as computers, semiconductors, electrical switching systems ... (G.-J. Kim, 2002: 31, Park et al., 2015: 7-9). The period from the 1990s to the present is considered the era of mass higher education. The development of higher education education has helped Korea acquire a highly qualified human resource that is fully equipped with knowledge, skills and ability to adapt to the knowledge-based economy. . They can work in a global environment and have access to the latest technologies. At this stage, research and development activities and cooperation between universities and enterprises are also interested and promoted (KEDI, 2017: 19-20).

#### **\* Japan**

The Japanese government uses the centralized NHRD strategic model to improve the quality of human resources through education and training reform. The Japanese government advocates that moral and social development must go hand in hand with economic development. The goal of education is to train high-level human resources to increase Japan's competitiveness in the international labor market, especially in the fields of science and technology. The Government calls for the cooperation of relevant ministries and agencies with the Ministry of Education and Training in standardizing the education system through clear and public policies, overcoming bureaucracy in the work place. manage. In addition, Japan's national human resource development programs have always focused on: (i) training people's study skills and multitasking ability; (ii) develop projects for the community; (iii) promote student exchange programs with countries around the world; (iv) strengthen the implementation of training activities and practice to improve professional qualifications in the workplace (Cho& McLean, 2004, Tu Thuy Anh et al., 2020).

#### **\* Singapore**

Singapore is a typical country for an economy with outstanding development thanks to human resource development policies. The Singapore government has successfully combined the government-constructive NHRD strategy and the transformational NHRD strategy. They have integrated human resource development policies with national economic development through the formation of a comprehensive quality education and training system. At the same time, the Singapore government promotes cooperation with non-governmental organizations around the world in human resource development, not only training high-quality human resources from domestic educational institutions but also from the government. books to attract talents from other countries in the world (AM Osman - Gani and WT Tan., 1998: 20-27) (Tu Thuy Anh et al., 2020).

In addition, the government advocates focusing on developing technology, science, a number of key industries and creating a very good bridge between universities and businesses, contributing to training human resources. serving in a growth economy based on innovation and creativity (Alagaraja & Wang, 2012: 437-442, Cseh & Manikoth, 2013).

#### **\* Malaysia**

Similar to Singapore, Malaysia develops corresponding and appropriate NHRD strategies for each stage of economic development. After becoming a middle income per capita country (\$2,441.74) in 1990, the Malaysian government sought to transform a developed economy based on natural resources to a knowledge economy. knowledge (Abdullah et al., 2016: 213-222). The Malaysian government established the Ministry of Human Resources in charge of human resource development issues. The organizational structure of the Ministry of Human Resources includes a full range of specialized departments, national committees advising on health, wages, ... and occupational safety. The government also encourages and supports private organizations to train according to government orders or businesses when they need it. The prominent policy of the Malaysian government in developing the NHRD strategy is to aim at improving the quality of human resources and training practical work skills through the development of the education system, in which especially higher education. They orient to develop from the traditional university model to a “future university model” - where it is possible to take advantage of new technology brought by the 4.0 Industrial Revolution, all teaching and learning activities can be carried out. implemented online, learners play an active role in absorbing and creating new knowledge, with the orientation of lifelong learning and learning anytime, anywhere (Tu Thuy Anh et al., 2020: 20-21) .

Through the application of NHRD strategic models in the above typical countries, we realize that a number of policies need to be focused on building high-quality human resources to meet the trend of Industry 4.0 as follows: :

- Focusing on self-training skills, lifelong learning, always absorbing new knowledge, being flexible in work, in a global environment, meeting the requirements of the information age, having access to the latest technologies and the ability to multitask.
- Enhance online working interaction skills, online information communication skills, interaction with artificial intelligence.
- Dynamic and proactive in absorbing and creating new knowledge.
- Closer connection between academic and business environments to make the most of and bring R&D to life.
- Stimulate the spirit of nationalism and patriotism, and at the same time create the best conditions for high-quality knowledge workers to return to serve the country.

#### **4. CONCLUSIONS AND RECOMMENDATIONS**

Observing the experiences of a number of countries that have had great success in economic reform, we see the power of high-quality human resources and the urgency to develop development strategies. human resources at the national level, especially when Vietnam is in need of leaps

and bounds in economic development in the current period of globalization. With the tradition of always using talents, “Talent is the national resource”, the Vietnamese government will have many advantages in implementing the country’s human resource development policies. We need to clearly define that building a national human resource development strategy is aimed at building a highly qualified workforce and meeting the needs of the labor market in the context of the Fourth Industrial Revolution. .

Currently, Vietnam’s economy is a socialist-oriented market economy, which means we are following a model that combines the roles of the market and the State. Vietnam still has many limitations in terms of labor supply and demand, and policies of the Government and labor-related organizations have not been completed. Moreover, domestic small and medium enterprises have the most need to use human resources, but they are not qualified to guide the development of national human resources (Pham Xuan Truong et al. 2019: 19). Therefore, Vietnam should not follow the NHRD strategy created by the state because we need the role of the state not only at the level of orientation, but also in organizing the implementation of the strategy. In the current situation, we should implement the NHRD strategy in a state of economic transition, when the state still plays the leading role in formulating the strategy and making the implementation plan (Tu Thuy Anh). et al., 2020) and gradually strengthen the role of the private sector to become the main driving force for the transformation of economic development.

Combined with the analysis of the current human resource situation and the impacts of the Fourth Industrial Revolution on Vietnam’s human resource development, a number of important contents in Vietnam’s national human resource development strategy are discussed. suggested as follows:

*Firstly*, Vietnam should clearly define the mechanism for implementing the NHRD strategy as a government agency, which is the focal point for direct management and reception of businesses’ comments and feedback in all fields. This agency is responsible for developing and perfecting the overall strategy for human resource development, operating as a separate organization with a full range of advisory committees in the fields of human resource development or directly under the Ministry of Education and Training. Education and Training. The next step is to develop policies on technology and science development, with priority given to improving the management level and expertise of human resources in the leadership and administrative and state management teams; a team of business managers and technical scientists, skilled workers and technicians.

*Second*, Vietnam needs to carry out a comprehensive and synchronous reform of education, ensuring that education development policies are consistent with economic development goals in each respective period. Strengthening resources for education and training through many forms such as investment in facilities, innovation of program content and teaching methods, improvement of the quality and qualifications of the teaching staff, etc. In line with the general development of global education, Vietnamese education needs to ensure all four principles: “learning to know, learning to do, learning to live with people, and learning to survive” (Nguyen Van Tai) , 2002), focusing on self-training skills, lifelong learning, adapting to the global working environment.

In particular, Vietnam needs to focus on the development of higher education in the new situation because this is the part that plays a direct role in improving the quantity and quality of

human resources, namely:

- Encourage university autonomy and attract private economic sectors to invest in higher education development.

- Invest in building key universities, perform well in mass higher education, expand enrollment opportunities for students, and at the same time ensure good implementation of output standards.

- Promote exchange programs or exchange students with universities around the world, encourage international schools to set up branches in Vietnam or combine on-site human resource training.

- Building a solid bridge, strengthening the cooperation between enterprises and universities, promoting research orders of enterprises.

- University graduates need to be assured that they will have enough skills and capabilities to grasp scientific knowledge, pioneer in updating knowledge and latest technology, contributing to gradually narrowing the gap. difference between Vietnam and other countries in the world. They need to be able to see future challenges, suggest directions for development in their area of expertise, and cultivate good moral character so that everything they do is in the national interest. family and nation.

- In the current situation of the global Covid-19 epidemic, Vietnam needs to focus on online operation methods, widely deploying the application of information technology to teaching, research and learning practices. .

*Third*, Vietnam needs to well implement policies to treat, nurture and attract high-quality human resources. Attracting and fostering talent is just as important as training. Vietnam needs to develop specialized policies with preferential working regimes for quality human resources. highly trained at home and abroad, attracting international students to return home to work after graduation and encouraging highly qualified human resources from developed countries in the world to come to Vietnam to work (experts) scientists, researchers in many fields of natural and social sciences, etc.)

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# APPLICATION OF OPTIMIZED FUND MODEL IN CASH FLOW MANAGEMENT OF TEXTILE INDUSTRY ENTERPRISES LISTED ON THE STOCK MARKET OF VIETNAM

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**Abstract:** *Effective cash flow management is a necessary requirement, directly deciding the existence and development of enterprises, especially textile enterprises in the face of the impact of the world economic situation and the Covid-19 pandemic. In which, treasury management is a basic stage of cash flow management, helping businesses minimize financial risks, reduce investment costs, ensure no excess working capital, measure and monitor cash flows money to protect the solvency of the business. Besides, by prudent treasury management, enterprises can maximize the amount of available cash and minimize the shortfall when there are objective impacts.*

*In this study, the author analyzes treasury management models and applies those models to cash flow management in textile enterprises listed on the Vietnamese stock market.*

**Keywords:** *business, model, budget management.*

## 1. INTRODUCTION

Textile and garment is one of the key processing industries in Vietnam's import and export activities. Over the years, Vietnam's textile and garment industry has made strong development steps and plays an increasingly important role in the growth of the economy. Of all the current export industries, the textile and garment industry is the one with high export turnover and growth rate. After more than ten years of joining the World Trade Organization (WTO), Vietnam's textile and garment export turnover has increased more than four times, of which the localization value of exported textile products has increased by more than six times. However, before the fluctuations of the world situation and the Covid - 19 epidemic, textile and garment enterprises are facing financial difficulties and that is the result of poor cash flow management, especially treasury management. That significantly affects production and business activities, capital mobilization and profitability of enterprises. To improve the above situation, textile enterprises need to flexibly apply the optimal budget model.

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## **2. AN OVERVIEW OF CASH FLOW MANAGEMENT AND THE ROLE OF OPTIMAL BUDGETING IN TEXTILE AND GARMENT ENTERPRISES LISTED ON VIETNAM'S STOCK EXCHANGE**

### **2.1. Overview of cash flow management**

Cash flow management in enterprises plays an important role, deciding the existence and sustainable development of enterprises in the market.

Cash flow management is a must for every business organization as cash is arguably the lifeblood of every business. The essence of cash flow management is to ensure that the cash flow for business activities is carried out smoothly. The most important cause of business failure is poor cash flow planning. The second cause besides poor planning is the lack of cash flow management skills (CIMA, 2002) [2].

Saleemi (2002) said that good cash flow management greatly affects the overall working capital management of enterprises. If cash flow management is not appropriate, businesses will certainly not achieve the desired cash flow. With small cash inflows, inventory levels will be limited and then, potential sales will also be reduced, leading to lower profits [17].

According to Odeyinka (2008), cash represents the basic input required to start and maintain a business. Businesses need to keep enough cash to run their business smoothly. Lack of cash will disrupt business operations and may lead to insolvency. Excess cash reduces unnecessary long-term capital resulting in low rates of return and return on equity. Therefore, businesses need to manage cash flow to achieve optimal levels [15].

Good cash flow management can have a big impact on overall working capital management. It is used objectively to determine the optimal amount of money required for trading and investing in securities, consistent with the nature of the business cycle (Gitman, 2009) [9].

Cash flow management is very important for businesses because it will help increase profits, meet future plans and maintain sustainable growth. On the other hand, it helps management plan for unforeseen situations that most businesses encounter. Many businesses have negative cash flow, leading to difficulties in financing business activities, including: paying suppliers, meeting salary needs and paying corporate income tax to the State. If the amount of cash or cash equivalent is insufficient, business operations will be disrupted.

### **2.2. The role of establishing the optimal level of optimal budgeting in textile enterprises listed on the Vietnamese stock exchange.**

In daily operations, enterprises always have cash receipts and payments, leading to fluctuations in the budget and affecting the solvency of enterprises. Therefore, to ensure the reasonable use of funds to determine the existence and future development, enterprises need to establish the optimal cash reserve level.

Davidson et al (1999) said that enterprises should keep adequate cash. Therefore, a key content of cash flow management is to maintain an optimal amount of money [4].

According to Gallagher (2000): cash flow management is related to the trade-off between the need for profitability and liquidity. The more cash a business holds, the greater its liquidity. However,

the excess cash also raises a big question about the corporate governance. Because holding cash to maintain liquidity will inhibit the need for long-term investments to achieve desired returns. Therefore, businesses need to maintain an optimal cash balance. The cash balance is said to be in the optimal position as the intersection of transaction costs and opportunity costs of holding cash [7].

To reconcile the liquidity and profitability of the business, managers must determine the appropriate level of inventory by understanding the factors that determine the business's cash holdings to avoid holding too much money. This is the important role of cash flow management to determine optimal cash balance (Collins, J. & Jarver, R., 2000) [3].

The trade-off theory also suggests that optimal cash holdings can balance marginal benefits and costs. In fact, if cash flow management is not reasonable, businesses cannot avoid having excess cash reserves compared to their needs, but holding too much money is not always beneficial for businesses. Therefore, corporate financial managers need to determine the optimal amount of money to hold, that is, maintain an appropriate level of liquidity to meet financial obligations arising at any time, and that influenced mainly between risks and benefits (Saddour, 2006) [17].

Effective cash flow management involves determining the optimal amount of money to hold, considering the trade-off between the opportunity cost of holding too much money and the transaction cost of holding too little. (Ross et al., 2011) [16]. The optimal amount of money based on the needs of the business is a necessary factor to help the business survive, develop and achieve the goal of maximizing the value of the enterprise (Gill and Shah, 2012) [8].

The right decision to hold cash will be suitable for the purpose of cash flow management (Menon. M., 2011) [12].

Therefore, businesses need to set up an optimal budget. Economists Baumol (1952), Miller-Orr (1966) and Stone (1972) have developed mathematical models that help businesses determine the optimal amount of cash reserves to balance liquidity problems with profitability profit.

The use of models to support decision-making on inventory for enterprises is necessary because they help to reflect the financial position of enterprises (Graham and Harvey, 2001) [10].

The author's survey results show that only 40% of the listed textile and garment enterprises use the cash management model to establish the optimal cash reserve level. The remaining 60% of textile and garment enterprises only rely on available experience or estimate the level of cash reserves subjectively, leading to a shortage of money for production and business activities, or an excess of money compared to their needs necessary, resulting in a waste of capital. Therefore, building an optimal budget management model is really necessary to help listed textile enterprises to rationally use money and develop sustainably.

### **3. CONTENTS OF OPTIMAL BUDGETING MODELS**

#### **3.1. Baumol (1952) model of cash management**

This is the earliest model that was studied by William Baumol (1952). This model is based on the premise that deciding on the optimal cash balance is the same as deciding on the optimal inventory level.

William Baumol was the first to discover that the inventory model could be applied to the cash management model. He said that in terms of capital, cash is similar to inventory because both are reserve assets for production and business.

According to William J. Baumol (1952): cash can be managed like any other inventory and the inventory model can reasonably reflect cost-volume relationships as well as cash flow. Therefore, the economic order quantity (EOQ) model can be applied to determine the optimal amount of cash. It provides useful background concepts for cash flow management. According to Jarrad (2000): Baumol considers the cash management problem to be the same as the inventory management problem, thus applying techniques to optimize inventory for the cash transaction problem [5].

**\* Assumptions of Baumol model:**

Baumol's model works well if the following assumptions are met:

- Businesses can accurately forecast their cash needs for a specific period (month, quarter, year) and receive a regular amount.

- The payment in cash of enterprises occurs uniformly from time to time.

There is an opportunity cost of holding cash that does not change over time.

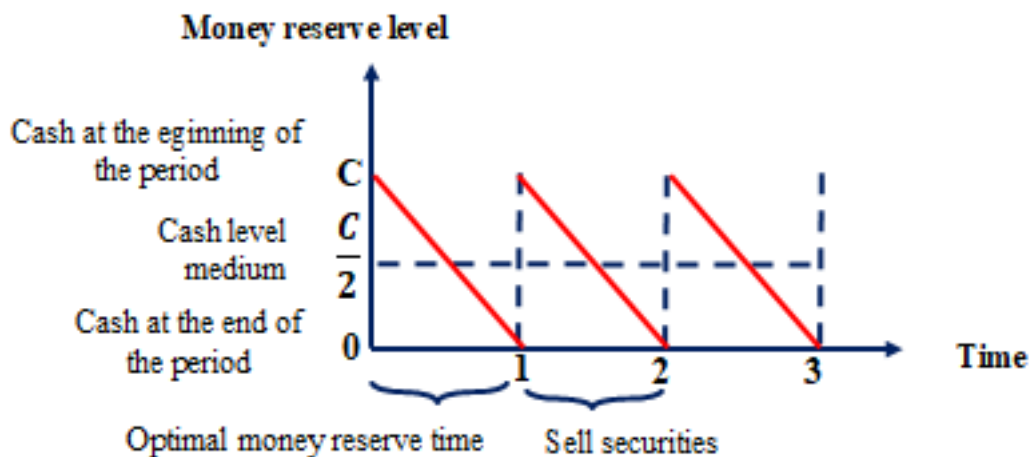
- Enterprises will bear transaction costs whenever they sell securities to collect cash. The costs incurred for each such transaction are assumed to be fixed.

- Short-term securities with quick liquidity can be bought and sold freely. The existence of a free market for quickly liquid securities is a prerequisite of the Baumol model.

- When the initial cash balance drops to zero, or at the minimum safe level, the business needs to sell securities to increase cash.

- Businesses must make cash payments at a consistent rate over a certain period of time, that is, the cash flow rate must be regular.

**\* Method to determine the optimal amount of cash reserve:**



**Figure 1: The optimal level of money reserve according to the Baumol model**

According to the Baumol model, the end of the optimal cash reserve period is when the firm uses up the optimal amount of cash in reserve. The working principle of the model is as follows:

- When cash decreases, businesses sell securities to increase the amount of cash, then there will be fixed transaction costs for each sale of securities. This cost is similar to ordering cost in inventory management.

- When storing cash, businesses will lose opportunity fees - that is, the interest earned when investing in other profitable purposes: investing in securities, saving savings or investing in real estate. This cost is equivalent to the cost of holding inventory in inventory management.

The Baumol model finds the correct balance by combining holding and transaction costs to minimize the total cost of holding cash.

The total cost of cash holdings will include: transaction costs (converting securities to cash) and opportunity costs of cash on hand. The main objective of the model is to find the optimal level of cash mobilization ( $Q$ ), so that the total cost of inventory is minimal.

The total cost of cash reserves is shown in the following diagram:

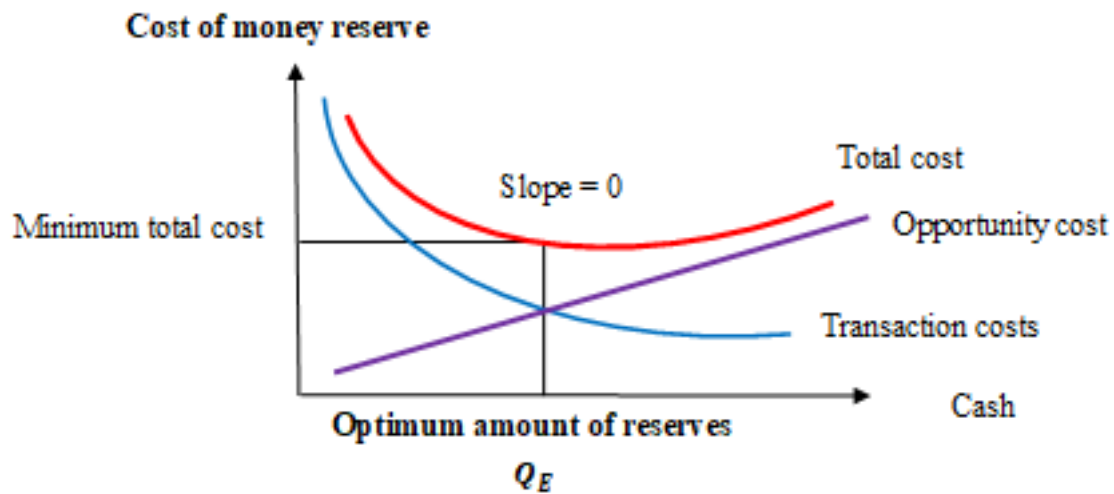


Figure 2: Cash reserve cost

Source: Baumol (1952) [1]

Similar to the EOQ (Economic Order Quantity) formula, the total cost of inventory is minimized when the opportunity cost equals the transaction cost. From that:

$$Q_E = \sqrt{\frac{2 * C * S}{i}}$$

In there:

- +  $Q_E$  is the optimal mobilized cash level.
- +  $C$  is the total cash demand for the period.

+ S is the fixed transaction cost (brokerage, commission...) each time buying or selling securities

$$S = \text{Cost of 1 transaction} * \text{Number of transactions}$$

+ i is the opportunity cost of capital from holding cash (the interest rate of short-term highly liquid securities can be used).

$$\text{Opportunity Cost} = \text{Interest} * \frac{\text{Reserve Level}}{2}$$

However, the Baumol model is built on very simple, sometimes unrealistic, assumptions. Specifically:

+ Total cash demand (C) in the future depends heavily on the accuracy of the cash demand forecast.  
 + Transaction costs (S) are fixed for each transaction but are not suitable for business operations and money market conditions. On the other hand, many types of transactions have transaction fees based not on the number of times but on the value of the transaction.

+ The assumption that enterprises periodically receive a certain amount of cash in expenditures but must ensure continuity is an assumption that is not suitable with the actual operation of enterprises.

In practice, it is difficult to calculate exact transaction costs.

- + Do not allow fluctuating cash flow.
- + Overdraft is not considered.
- + There are uncertainties in the future cash flow pattern.
- + The actual spending level is not as stable as the model's hypothesis
- + The conversion of short-term securities in reality cannot be done as fast as the model's calculation.

Marsh (2009) admits: although this model is simple to understand and apply, the big limitation of Baumol model is that it does not allow cash flow to fluctuate like reality, so it is difficult to accurately predict cash demand in the future [11].

However, the Baumol model provides a basic conceptual framework and can be used conservatively as a criterion for determining a firm's optimal cash holdings.

### **3.2. Miller-Orr (1966) model of cash management**

To overcome the disadvantages of the Baumol model, two scientists, Merton Miller and Daniel Orr, developed an inventory model with the assumption that the net cash flow fluctuates randomly, the difference from the average value is a quantity budget revenue and expenditure variance. It helps businesses manage cash when considering daily cash flow fluctuations.

#### **\* Assumptions of the Miller - Orr model:**

The cash inflows and outflows of the business are assumed to be random, i.e. different cash payments are made at different times, their dispersion repeating a pattern presented in the past.

- Fluctuations in cash balances happen randomly.
- Businesses can invest idle money in securities with quick liquidity.
- Miller - Orr proposed a model with limits of control, setting control points for the timing and size of money transfers between the investment account and the cash account. In which: the lower limit will be established by the enterprise, the upper limit and the return point are calculated according to the formula.

The model places an upper limit () and a lower limit () with a cash balance represented by ( $M^*$ ).

\* Formula of Miller and Orr model:

$$M^* = M_{min} + \sqrt[3]{\frac{3 * C_2 * \delta^2}{4 * C_1}} = M_{min} + \frac{d}{3}$$

Where d is the cash range calculated by the formula:

$$d = 3 * \sqrt[3]{\frac{3 * C_2 * \delta^2}{4 * C_1}}$$

In there:  $\left\{ \begin{array}{l} M^*: \text{optimal cash balance} \\ M_{min}: \text{lower limit of cash holding} \\ C_1: \text{interest rate (opportunity cost of holding cash)} \\ C_2: \text{the cost of 1 time securities transaction} \\ \delta^2: \text{variance of cash receipts and payments} \end{array} \right.$

\* Working principle of Miller and Orr model:

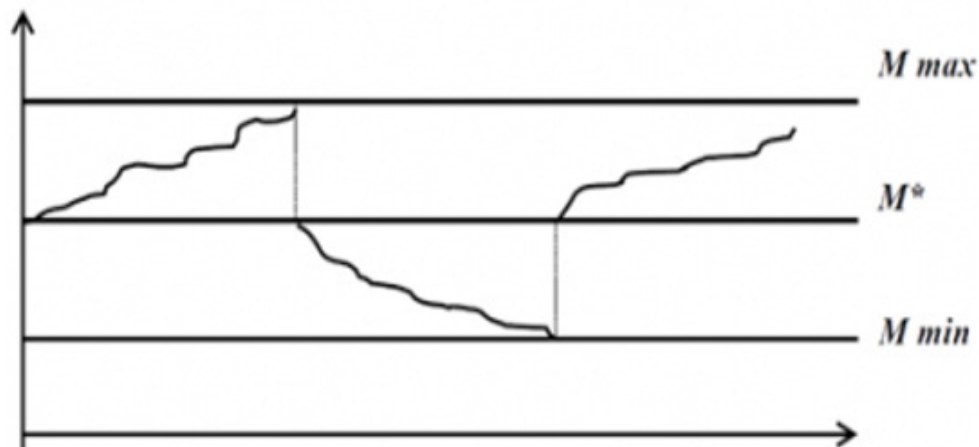
According to the Miller-Orr cash management model, businesses let their cash balances move within two limits: the upper limit and the lower limit. Businesses only buy or sell liquid securities when their cash balance hits the upper or lower limit.

- When the cash balance of the business reaches the upper limit , the business leaves an amount equal to the optimal cash balance ( $M^*$ ), the rest (-), the business will buy securities or bank savings.

- When the cash balance of the enterprise reaches the lower limit , the enterprise sells highly liquid securities or takes a bank loan in the amount (-) to return target cash balance.

Affirmative model: the transfer of funds into or out of an account to bring the balance back to a pre-determined return point whenever the actual balance exceeds the lower or upper limit.





**Figure 1: Miller - Orr cash management model**

*Source: Miller - Orr (1966) [5]*

**\* Note when using Miller - Orr cash management model.**

Miller - Orr's cash management model is widely used in many businesses. However, according to Nguyen Minh Kieu (2013) [14], to use the Miller - Orr cash management model, the CFO needs to:

- Estimating the standard deviation of daily cash inflows and outflows.
- Set a lower limit for inventory. This limit is related to the level of safety of spending decided by the management.
- Decide the interest rate to determine the daily transaction cost.
- Estimating transaction costs related to buying and selling short-term securities.

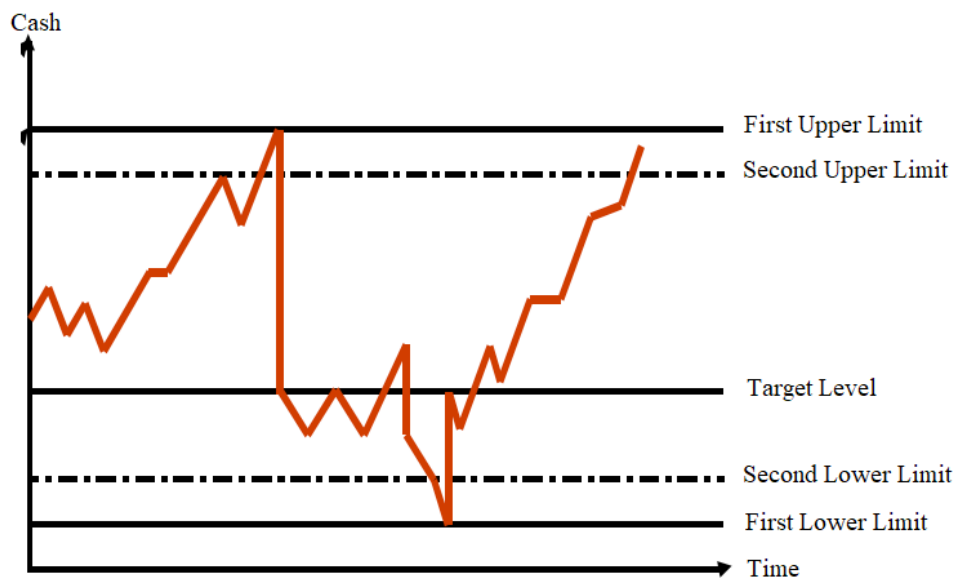
**3.3. Stone model of cash management (1972).**

The Stone (1972) model is somewhat similar to the Miller - Orr (1966) model when using a control limit. However, it incorporates a prior forecast of cash flows when an upper or lower limit is reached to account for the possibility that a cash surplus or deficit may spontaneously self-correct.

**\* Assumptions of the Stone model:**

- Enterprises have two assets: cash and highly liquid securities.
- Transactions of buying and selling securities with high liquidity can take place immediately.
- When forecasting future cash flows of the business, all information is transparent and available.
- Businesses want to maintain a certain cash balance, they need to plan to use credit and the support of the bank.

**\* Working principle of Stone model:**



**Figure 2: Stone . cash management model**

*Source: Stone (1972) [19].*

Stone found that cash flows can often be predicted well in the short term, so he advanced the Miller-Orr model. In which, the upper limit 1 and the lower limit 1 are the same as the upper limit and lower limit in the Miller and Orr model.

If the upper limit 1 is reached, but then there are cash outflow days that cause the cash balance to fall to an acceptable level between the lower limit 2 and the upper limit 2, the business conducts the analysis to assess expected cash flow trends in the coming days and without having to interfere with cash balances. Instead, if the cash surplus remains essentially the same, cash is withdrawn to bring the cash balance back to a predetermined point back.

If there is a shortage of cash and the lower limit of 2 is reached, the opposite will apply. In case of exceeding the upper limit of 2, the negative cash flow trend is expected to continue, the business needs to sell securities. Stone notes: it is often not necessary to initiate a trade when the limit is exceeded, as the direction of the following days' cash flow may be opposite.

If the cash balance in the coming days is expected to return to the middle of the inner limit, there is no need to execute the transaction.

**\* Features of Stone's cash management model:**

The Stone model considers cash flow forecasting. This is a fundamental difference compared to the two previous Baumol and Miller - Orr models. However, it is necessary to verify the conditions for buying and selling securities held. This risk is controllable through setting internal minimum and maximum limits. The upper limit 1, the lower limit 1 and the forecast period are determined according to the experience of the business manager.

The goals of this model are:

- Make sure you have enough cash to pay the bill.

- Minimize transaction costs in obtaining cash when short.
- Handling cash when surplus arises.

Enterprises can apply the Stone cash management model when they do not know the cash inflows and outflows in the future but can predict in a short time.

Thus, the above three typical cash management models have created a premise to support businesses in making decisions to hold optimal cash balances and build a solid foundation for researchers in the next period follow.

#### **4. APPLYING MILLER - ORR CASH MANAGEMENT MODEL TO MANAGE CASH FLOW IN TEXTILE ENTERPRISES LISTED ON VIETNAM STOCK MARKET**

*Case study: Applying the Miller - Orr cash management model to determine the optimal amount of cash reserve of Huu Nghi Garment Joint Stock Company in the fourth quarter of 2020.*

- **Set a minimum amount of funds to ensure a safe level of spending for the company.**

The Company, based on the cash balance (cash and cash equivalents) of the fund for the period 2015-2020, combined with cash needs in the next period, has determined the minimum amount of cash reserve in the fourth quarter of 2020 as follows:

$$M_{\min} = 1,986.5 \text{ million dong}$$

Estimate the standard deviation of the company's annual cash flow.

Based on past cash flow data, Huu Nghi Garment Joint Stock Company determined the variance of treasury revenue and expenditure as:  $\sigma^2 = 6.659.108,5$  million dong.

Determine the interest rate to determine the opportunity cost.

Huu Nghi Garment Joint Stock Company does not invest in short - term securities because:

- + This form has high potential risk.
- + If the company has to trade many times in a short period of time, the company has to bear high transaction costs.

Therefore, the opportunity cost is based on the interest rate prescribed by the State Bank for capital mobilization activities of commercial banks. According to the interest rate table of Joint Stock Commercial Bank for Foreign Trade of Vietnam, the deposit interest rate is 5.5%/year (ie  $C_1 = 5.5\%$ ).

- Determine the cash range.

As analyzed above, because Huu Nghi Garment Joint Stock Company does not invest in short-term securities, the transaction costs of the company are not significant ( $C_2 = 1$ ).

The company's cash range is determined by the following formula:

$$d = 3 * \sqrt{\frac{3 * C_2 * \delta^2}{4 * C_1}}$$

$$= 3 * \sqrt{\frac{3 * 1 * 6.659.108,5}{4 * 5,5\%}} = 1.348,42 \text{ (million dong)}$$

- Determine the optimal money balance:

The company's optimal cash reserve is determined by the following formula:

$$M^* = M_{min} + \sqrt{\frac{3 * C_2 * \delta^2}{4 * C_1}} = M_{min} + \frac{d}{3}$$

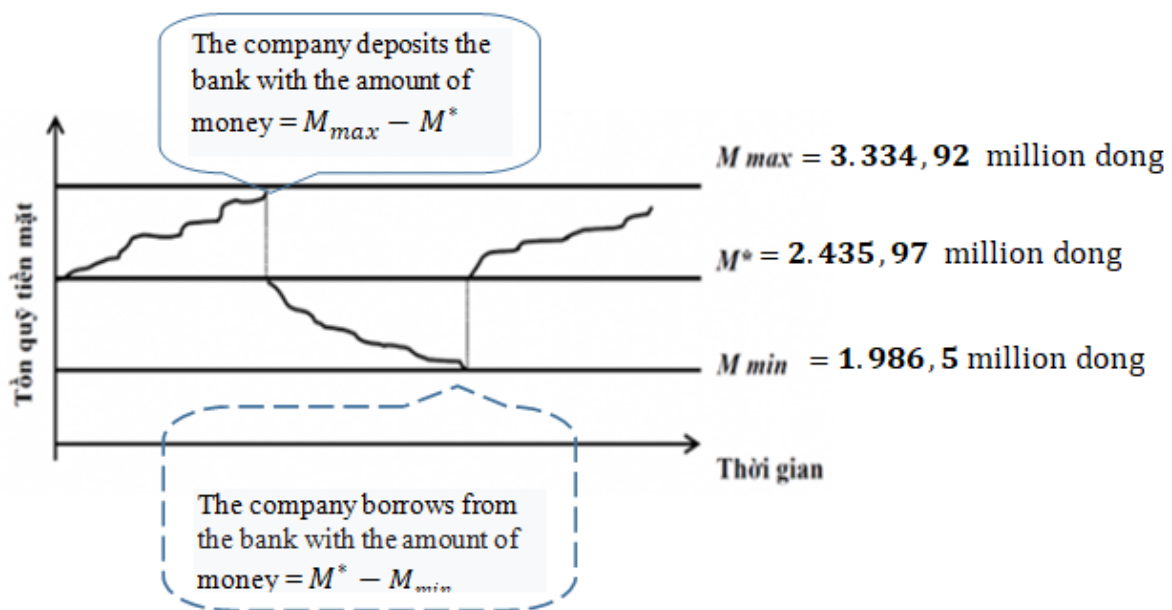
The optimal cash reserve level of Huu Nghi Garment Joint Stock Company is:

$$M^* = 1.986,5 + \frac{d}{3} = 1.986,5 + \frac{1.348,42}{3} = 2.435,97 \text{ (million dong)}$$

The level of funds at the upper limit of the company is:

$$M_{max} = M_{min} + d = 1.986,5 + 1.348,42 = 3.334,92 \text{ (million dong)}$$

Cash management activities according to Miller - Orr model of Huu Nghi Garment Joint Stock Company are shown in the following diagram:



**Figure 2: Cash management model of Huu Nghi Garment Joint Stock Company**

Source: [6]

According to the analysis above, because it did not conduct securities transactions, based on the Miller - Orr cash management model, Huu Nghi Garment Joint Stock Company handled the treasury as follows:

+ When the actual cash balance reaches 3.334,92 , the company leaves an optimal amount equal to 2,435.97 , the rest =  $3.334,92 - 2.435,97 = 898,95$  , the company bank savings company.

+ When the actual cash balance reaches 1,986.5 million, the company mobilizes more by borrowing from a bank with the amount =  $2.435,97 - 1.986,5 = 449,47$  .

## 5. CONCLUSION

Funding is an indispensable element in two processes: buying inputs and selling outputs in all types of businesses. On the other hand, the budget is a factor that directly determines the solvency of the business at all times. In addition, the treasury plays an important role as a reserve and holds money for speculative purposes. Therefore, choosing to use a treasury management model to ensure effective cash flow management is an essential element for textile enterprises in the current difficult period.

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# **OBSTACLES OCCURRED DURING THE PRACTICAL IMPLEMENTATION OF THE CRIMINAL CODE IN 2015 ON CRIMINALS PRODUCING AND TRADING COUNTERFEIT GOODS AND THE INFRINGEMENT OF INDUSTRIAL PROPERTY RIGHTS**

**Assoc. Prof., Dr. Ngo Thanh Hoang<sup>1</sup>, MA. Nguyen Van Hieu<sup>2</sup>**

**Abstract:** *Criminals producing and trading counterfeit goods is a part of the crimes of infringing economic management order in production, business and commerce, which are defined in Articles 192, 193, 194, 195 in Section 1, Chapter XVIII of the Criminal Code in 2015, which was amended and supplemented in 2017. The crime of infringing industrial property rights belongs to another group of crimes infringing on the economic management order, which is specified in Article 226, Section 3, Chapter XVIII of the Criminal Code in 2015. Although the Criminal Code in 2015 have many progressive points and in line with reality, however, the practical implementation of this Criminal Code shows that there are still many obstacles in the implementation process, especially regarding mentioned crimes.*

**Keywords:** *Producing and trading counterfeit goods; producing and trading counterfeit food, food additives, medicines for treatment or prevention of diseases; production and trading counterfeit animal feeds, fertilizers, veterinary medicines, pesticides, plant varieties, animal breeds; industrial property rights; the Criminal Code.*

## **1. AN OVERVIEW ON CRIMINALS PRODUCING AND TRADING COUNTERFEIT GOODS AND THE INFRINGEMENT OF INDUSTRIAL PROPERTY RIGHTS UNDER THE CRIMINAL CODE IN 2015**

In the context of globalization, with the dominant market economy of most countries in the world, international cooperation between countries is increasingly expanding in many aspects, of which the outstanding is the economic cooperation between countries has contributed to promoting the rapid development of the economies of many countries in the world, including Vietnam. However, the market economy besides its achievements, the problem is too much emphasis on profit, only chasing after profit, which leads to the production of counterfeit goods, poor quality goods, goods infringing on regulations. Industrial property rights are increasingly rampant and are becoming a problem of many countries around the world.

On the Vietnamese market, the problem of producing and trading counterfeit goods, poor quality goods, even smuggling of counterfeit goods, goods infringing on industrial protection

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rights are increasingly rampant, greatly affecting the national economy, the healthy competition between businesses, affecting consumers, even reducing consumer confidence in products and goods on the Vietnamese market today.

To deal with this problem, in Vietnam, even in the first Criminal Law, the crime of producing and trading counterfeit goods was directed in Article 167, Chapter VII in the Criminal Code in 1985. Up to the Criminal Code in 1999, the crime of counterfeit goods is specified in 3 crimes as follows:

Article 156: Crime of producing and trading counterfeit goods.

Article 157: Crime of producing and trading counterfeit food, food additives, medicines for treatment or prevention of diseases.

Article 158: Crime of producing and trading counterfeit animal feeds, fertilizers, veterinary medicines, pesticides, plant varieties, animal breeds.

Until the Criminal Code in 2015 amended and supplemented in 2017, the crimes related to production and trading counterfeit goods was separated into 04 separate crimes, in Section 1, Chapter XVIII including:

Article 192: Crime of producing and trading counterfeit goods.

Article 193: Crime of producing and trading counterfeit food and food additives.

Article 194: Crime of producing and trading counterfeit medicines for treatment or prevention of diseases.

Article 195: Crime of producing and trading counterfeit animal feeds, fertilizers, veterinary medicines, pesticides, plant varieties, animal breeds.

With such regulations, it shows that the fight against counterfeiting and poor quality goods to protect consumers has been paid attention from early on, by stipulating crimes to fight crimes manufacturing and trading counterfeit goods in different fields. Regarding the handling of the act of manufacturing and trading in counterfeit goods, especially for counterfeit goods such as food, food additives, medicines for treatment or prevention of diseases, there are very strict sanctions, up to life in prison or death penalty. Thereby, it shows that the provisions of the criminal law on the fight against crime in the field of production and sale of counterfeit goods are very strict.

For the crime of infringing upon industrial property rights for the first time prescribed in Article 171, Chapter XIV, the Criminal Code in 1999, crimes of infringing upon economic management order with the highest sanction of up to 3 years in prison. Up to the Criminal Code in 2015, crimes of infringing upon industrial property rights are specified in Article 226, Section 3 other crimes of infringing upon the economic management order, with the highest penalty applied to the offenders. For individuals is up to 3 years in prison and commercial legal entities are suspended for a maximum period of up to 2 years, the punishment is relatively light compared to the group of criminals producing and trading counterfeit goods. Within the limitation of this article, the author focuses on researching and explaining the issues raised in these crimes as stipulated in the Criminal Code in 2015, amended and supplemented in 2017.

Thus, the object of the criminals that produce and trade counterfeit goods and the crime of infringing industrial property rights are the economic management order. However, the



criminals producing and trading counterfeit goods infringes on the direct object of economic management order in the field of production, business and commerce; the crime of infringing upon industrial property rights infringing upon the direct object of economic management of intellectual property rights.

Criminals who produce and trade counterfeit goods are defined in Articles 192, Article 193, Article 194 and Article 195 of the Criminal Code in 2015, do not specifically describe objective signs of the crime but only provide “who manufactures or trades counterfeit goods” falls under one of the circumstances that constitute a corresponding crime depending on each specific crime. Article 192 stipulates that there are 03 penalty frames for individuals committing crimes and 05 frames for commercial legal entities that commit crimes. For Article 193, Article 194, and Article 195, there are 4 penalty frames for individuals and 5 penalty frames for commercial legal entities and additional penalties for each specific crime.

For the crime of infringing industrial property rights, the objective act of this offender is the act of “intentionally infringing upon industrial property rights with respect to a protected trademark or geographical indication in Vietnam without the subject matter is goods with counterfeit trademark or geographical indication”. However, only intentional acts of infringing upon industrial property rights are carried out on a “commercial scale” or illegally gain a profit of 100,000,000 VND or more or cause damage to the trademark owner or only geographical indications of 200,000,000 VND or more or infringing goods valued at 200,000,000 VND or more are enough quantitative factors to constitute this crime. And in the composition of the crime, it is divided into 2 penalty frames for individuals and 3 penalty frames for commercial legal entities and additional penalties applied to individuals and commercial legal entities.

These two crimes are relatively similar. Accordingly, the subject of the crime of producing, trading counterfeit goods and infringing upon industrial property rights is an ordinary subject - that is, any person who satisfies the conditions of criminal capacity and criminal liability. The age of criminal responsibility according to the Criminal Code can become the subject of crimes and all stipulate that a new subject, a commercial legal entity, also becomes the subject of these crimes. Subjectively, the criminals producing and trading counterfeit goods and infringing industrial property rights are all committed with direct intentional error or indirect intentional error. That is, the offender is aware that his or her behavior is dangerous to society, foresees the consequences of that act and wants the consequences to happen, or the offender realizes that his or her behavior is dangerous for the society, foreseeing the consequences of such behavior that may occur, although undesirable, but still consciously let the consequences happen.

## **2. INADEQUACIES IN THE CRIMINAL CODE IN 2015 REGARDING CRIMINALS PRODUCING AND TRADING COUNTERFEIT GOODS AND THE INFRINGEMENT OF INDUSTRIAL PROPERTY RIGHTS**

### **2.1. The Criminal Code does not specifically explain the criminal composition of criminals producing and trading counterfeit goods and the infringement of industrial property rights**

The Criminal Code in 2015 and related guiding documents do not explain specifically which are “counterfeit goods”, “industrial property rights” as well as acts of “producing and trading

counterfeit goods” and acts of “infringing industrial property rights”. In addition, there are no regulations on the reference to relevant specialized legal documents to apply when handling criminal acts for the above crimes, so the application of the law of each agency, each place, and each time is still not consistent. The practice of investigation, prosecution and trial recognizes the following different interpretations:

- The first way of understanding: Referring to similar specialized law.

Accordingly, the concepts of “counterfeit goods” and the act of “producing and trading counterfeit goods” are explained based on the Clauses 1, 2 and 7, Article 3 in the Decree No. 98/2020/ND-CP stipulating the sanction of administrative violations in commercial activities, production and trading of counterfeit and banned goods and protection of consumers’ interests. However, this Decree does not state the concept of “counterfeit goods” but only lists 06 groups of “counterfeit goods”. This leads to the regulation of “counterfeit goods” not covering all cases that may arise in reality. In addition, the referenced specialized legal documents are often unstable. For example, the previous regulation on sanctioning of administrative violations in commercial activities, production and trading of counterfeit and banned goods and protection of consumers’ interests was Decree No. 185/2013/ND-CP dated November 15, 2013, now Decree No. 98/2020/ND-CP. Comparing these two documents, it can be seen that although they are of the same nature as “counterfeit goods”, but “counterfeit goods” specified in Decree No. 98 does not agree with “counterfeit goods” specified in Decree No. 185.

Similarly, Clause 4, Article 4 in the Intellectual Property Law in 2005 which was amended and supplemented in 2009 and 2019 explains the concept of “industrial property rights” as the rights of organizations and individuals to inventions, industrial designs, layout designs of semiconductor integrated circuits, trademarks, trade names, geographical indications, and business secrets created or owned by themselves and the right to combat unfair competition. Although the law has stated the concept of “industrial property rights”, when referring to the crime of infringing on industrial property rights, not quite suitable either. Because, according to the provisions of the Intellectual Property Law in 2005, objects of industrial property rights include: (1) inventions, (2) industrial designs, (3) layout designs of integrated circuits semiconductors, (4) trademarks, (5) trade names, (6) geographical indications, (7) trade secrets created or owned by themselves, and (8) rights against unfair competition. Meanwhile, the object of impact of the crime of infringing upon industrial property rights according to the provisions of Article 226 of the Criminal Code in 2015 is very narrow - only 02 (out of 08) objects are trademarks and geographical indications. Article 226 further specifies that the object must be counterfeit goods in terms of trademarks and geographical indications. Article 213 of the Intellectual Property Law in 2005 defines counterfeit trademark and geographical indication goods (collectively referred to as “counterfeit trademark goods”) as “counterfeit intellectual property goods”. Accordingly, “forged trademark goods” are “goods or packages of goods with trademarks or signs identical to or difficult to distinguish from the protected trademark or geographical indication used for the goods themselves” without the permission of the trademark owner or the organization managing the geographical indication”. Based on this provision, “brand counterfeit goods” are easily confused with “counterfeit goods” listed at Clause 7, Article 3 of Decree No. 98, leading to difficulties in determining the crime.

- The second interpretation: Apply the concept explained by the Criminal Code in 1999 (amended and supplemented in 2009).

According to this understanding, “counterfeit goods” are classified as “counterfeit goods in appearance” - a case where the goods have the same name, trademark, design or origin, origin, and geographical indications with goods of the same type already on the market or goods with similar names, designs, trademarks, etc., which are likely to cause confusion for customers; “Content counterfeit” – is fake in terms of quality or utility, use value of goods, but in terms of form, packaging, brand, etc. are real; “counterfeit goods in both form and content” – is a type of goods that carry a trademark, origin, etc., which is incorrect, and does not have the same quality or use, or the lower quality and utility of the real goods. The act of “manufacturing counterfeit goods” is defined as the act of making counterfeit goods; The act of “trading counterfeit goods” is defined as the act of selling counterfeit goods or purchasing counterfeit goods for the purpose of reselling for an illegal profit. This explanation, though more comprehensive and stable than Decree No. 98, has no legal value, so it is only used for reference in the process of prosecution, investigation, prosecution and adjudication.

Regarding the act of “infringing industrial property rights”, if Article 171 of the Criminal Code in 1999 was amended and supplemented in 2009, it is clear that the act of infringing on industrial property rights is the act of “appropriating and using illegal”, the Criminal Code in 2015 only generalizes “intentionally infringing industrial property rights” without explaining specifically what is an infringement of industrial property rights. Therefore, there is a view that it is an act of “illegal appropriation and use” as defined in Article 171 of the Criminal Code in 1999, which was amended and supplemented in 2009; Other views believe that these are the corresponding acts prescribed in the current Intellectual Property Law.

In addition to the above two issues, procedural practice also records the case where there is no regulation as a basis for prosecution, investigation, prosecution and trial. It is a quantitative regulation to investigate criminal liability for the crime of infringing upon industrial property rights. Compared with the Criminal Code in 1999, which was amended and supplemented in 2009, the Criminal Code in 2015 has removed the quantitative sign of “causing serious consequences” which in practice is difficult to determine to prosecute criminals for penal crime, instead of specific quantitative signs such as: illegally earning a profit of 100,000,000 VND or more or causing damage to the owner of the mark or geographical indication from 200,000,000 VND or more or goods in violation of the law is worth from 200,000,000 VND or more. The Criminal Code in 2015 also does not stipulate the details of “having been administratively sanctioned for this act or convicted for this crime, not yet entitled to criminal record remission but still committing it” but amending it in the direction of intentional infringing acts. Industrial property rights constitute a crime when practiced on a “commercial scale”. However, the law has not yet clearly defined what is “commercial scale” so that the competent authorities conducting proceedings can easily and uniformly apply it in practice.

In summary, because the current criminal law does not specifically identify elements in the criminal composition of the crime of manufacturing, trading in counterfeit goods and infringing upon industrial property rights, the practice of investigation, prosecution, judging the existence of

many different points of view is inevitable. In case the agency competent to conduct proceedings does not choose to refer to specialized legal documents to apply, there is no legal basis to believe that it is wrong.

## **2.2. The Criminal Code does not clearly define the criminals producing and trading counterfeit goods and the infringement of industrial property rights**

In the practice of solving criminal cases, the identification of groups of criminals producing and trading in counterfeit goods and crimes of infringing upon industrial property rights is very fragile and there are many different opinions, views and solutions, especially for the act of producing and trading in fake goods in which the counterfeit goods are the subjects specified at Clause 7, Article 3 in Decree No. 98. For example, the following cases :

The first case: Mr. A knows that the coagulants deposited in the water of the Institute of Chemical Technology can be produced and sold in the market at a cheaper price and also have the same use as a synthetic product to treat drinking and domestic water called WAT-CLEAN. Therefore, he has intention to buy coagulants settling in water from the Institute of Chemical Technology pretending to be WAT-CLEAN water treatment products to sell for profit. Proceed to take samples of the packaging of the product WAT-CLEAN and printed according to the sample. After having the packaging, Mr. A began to buy the coagulants that settled in the water produced and sold by the Institute of Chemical Technology, brought back, divided, and put into packages with pre-printed WAT-CLEAN labels, sealed and glued and sold for profit . The water-settling coagulant that Mr. A bought to fake the WAT-CLEAN brand name was announced by the Institute of Chemical Technology TCCS-01-2013/VCHNH, the product is allowed to be produced and sold publicly on the market. This substance has the effect of settling in water used in daily life, causing no harm to human health as well as no harm to the environment. The product “Synthetic product for treatment of drinking and domestic water” of the Center for Technical Research and Environmental Management was granted a trademark registration certificate by the National Office of Intellectual Property of the Ministry of Science and Technology. digitization dated June 26, 2009 for registration of trademark WAT-CLEAN valid until January 4, 2028. Judgment No. 69/2020/HS-ST dated June 4, 2020 of the Council of district G declared that defendant Mr. A committed the crime of “Manufacturing counterfeit goods”.

The second case: Khanh Huyen Fashion Company was established, specializing in trading jeans. During the business process, Khanh Huyen bought fake jeans branded “Levi’s” to sell to customers. Jeans brand “Levi’s” is owned by Company “L”, based in the US with the original industrial property representative in Vietnam, P & Associates Company, licensed by the National Office of Intellectual Property. received label registration No. 129473 dated July 14, 2009 valid until November 23, 2027, registered for products of group 25, including jeans and Certificate of label registration No. 2611 dated 19 April 1991, valid until January 26, 2021, registered for products of group 25, including clothing. The judgment No. 146/2019/HS-ST dated November 22, 2019 of the Council of District T declared that defendant Khanh Huyen committed the crime of “Infringing industrial property rights”.

In the above cases, it can be seen that the defendants all committed similar acts of producing and trading in counterfeit goods of well-known brands for those goods. However, some courts

have determined that it is an offense to manufacture counterfeit goods as prescribed in Article 192 of the Criminal Code in 2015, while the Council has determined it to be an offense of infringing industrial property rights as prescribed in Article 226 of the Criminal Code in 2015. The cause of the above inconsistency is due to the overlap or similarity in the behavior described in the criminal composition of these crimes, which leads to confusion and difficulty in distinguishing when charge crime. For example, the act of trading in counterfeit goods where the counterfeit goods are “forged goods and goods packaging of other organizations and individuals” being protected, is also the act of “using signs identical to the trademarks of other organizations and individuals”. be protected for goods and services identical to those on the list of registered trademarks” in the group of acts of infringing upon industrial property rights.

### **3. PROPOSING SOLUTIONS TO IMPROVE EFFICIENCY IN THE PROCESS OF SETTLING CASES RELATED TO THE PRODUCTION AND TRADE OF COUNTERFEIT GOODS AND THE INFRINGEMENT OF INDUSTRIAL PROPERTY RIGHTS**

Through analyzing the inadequacies of the law on the group of criminals producing and trading counterfeit goods and the crime of infringing upon industrial property rights, the author proposes the competent authorities to issue guiding documents on the criminals producing and trading in counterfeit goods and infringing upon industrial property rights, with the following basic contents:

Firstly, specifying the concept of “counterfeit goods” and the act of “manufacturing and trading counterfeit goods” in the criminal composition of the group of criminals producing and trading in fake goods; acts of “infringement of industrial property rights” as well as other elements of the criminal composition such as “industrial property rights”, “commercial scale” for crimes of infringing upon industrial property rights.

Secondly, guiding on how to distinguish and determine crimes in case of acts of infringing upon industrial property rights with respect to “forged trademark goods” specified in Article 213 of the Intellectual Property Law in 2005 and acts of manufacturing or trading counterfeit goods, where counterfeit goods are the subjects specified at Clause 7, Article 3 of Decree No. 98.

Thirdly, improving the quality of staff in state agencies such as market management force, customs, economic police force, officials performing goods quality inspection at public authorities to effectively fight against increasingly sophisticated crimes like today.

Fourthly, fully equipping modern facilities and equipment to serve the assessment of products and goods, product quality assessment, product packaging and labels more accurately and efficiently.

Fifthly, strengthening the effective coordination between crime prevention and control agencies, enterprises protected by industrial property rights, and mainstream manufacturers of goods and products so that when detecting signs of violations of the law on production and trading of counterfeit goods, infringement of industrial property rights, quickly coordinate to determine the nature and severity of the violation so that there can be more effective handling.

Above are obstacles occurred during the practical implementation of the Criminal Code in 2015 on criminals producing and trading counterfeit goods and the infringement of industrial property rights and solutions suggested by the author.

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# CIRCULAR ECONOMY IN VIETNAM

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**Abstract:** *Developing circular economy has become a trend of countries, in the context of global economic integration, Vietnam has joined many new generation free trade agreements (FTAs) with many countries and economic regions. economy, including commitments on environmental and ecological safety standards, the application of the circular economy model in Vietnam is an inevitable trend towards sustainable development, especially when natural resources are available in the world. The world is increasingly exhausted, helping to solve the problem between economic and environmental benefits. Circular economy is an economic model in which the goal is to extend the life of materials, eliminating negative impacts on the environment. Vietnam is trying to develop its economy in a sustainable way, minimizing adverse impacts on the environment, and the circular economy is a model that is interested, oriented and has a development project.*

**Keywords:** *Circular economy, sustainable development, environment..*

The circular economy is becoming an inevitable trend in the context of increasingly resource depletion, depletion, polluted environment, and drastic climate change. Global agreements and agreements on environment, climate change and sustainable development, new generation free trade agreements set out many regulations on waste and emission standards. This will be the premise to promote the transition to a circular economy model.

The circular economy is not only the reuse of waste, considering waste as a resource, but also the connection between economic activities in a pre-determined way, forming a cycle in the economy. The circular economy can keep the material flow in use for as long as possible, restoring and regenerating products and materials at the end of each production or consumption cycle.

In Vietnam, the application of the circular economy in association with sustainable development and green growth is receiving more attention and attention in recent years. In particular, the content on building a circular economy was identified by the 13th Party Congress as one of the country's development orientations for the period 2021 - 2030 to achieve the sustainable development goals. Deputy Prime Minister Le Minh Khai has just signed Decision 687/QĐ-TTg approving the project of developing circular economy in Vietnam. The specific objective of the Project is to contribute to concretizing the goal of reducing greenhouse gas emission intensity per GDP by at least 15% by 2030 compared to 2014, towards the goal of net emissions to “zero” by 2050.

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The concept of circular economy (CE) was born in the 1990s, in the context of modern society developing, high consumption caused many negative factors to human health and ecosystems, as well as bringing many dangers to the environment and sustainable development. Until now, there are different interpretations of CE.

The World Economic Forum (WEF) defines the CE platform as an industrial system restored or recreated by intent and design. It transitions to renewable energy, eliminates the use of hazardous chemicals that cause reuse, and returns to the biosphere through the superior design of materials, products, systems and tissues. business form.

The Ellen Mac Arthur Foundation defines the CE platform as: An economy that transcends the current extractive industrial model, focusing on positive benefits for society as a whole. It entails economic activity gradually decoupling from the consumption of finite resources and limiting waste generation, and at the same time switching to renewable energy sources.

As such, CE is design, manufacturing and service activities that aim to prolong the life of materials and eliminate negative impacts on the environment, thereby minimizing harm to quality of life through through waste recycling solutions, using recycled materials as input materials to save natural resources. It is also the management and rational use of renewable natural resources, waste management by recycling to optimize the value on the principle that the materials and resources are used. The longer the time, the more value is derived from them.

The CE platform operates on basic principles, closely related to the use of recycling, production cycle, processing and resource use in an economical, efficient, minimizing and radical way. wastes that pollute the environment. There are 3 principles of CE: First, conserve and improve natural resources by controlling limited resources and balancing flows of renewable resources; second, optimizing resource use by recycling the product, its components and materials to the highest degree at all times in both the technical and biological life cycles; third, promoting the efficiency of the system by detecting vulnerabilities and eliminating negative external influences.

Over the years, the concept of economy has been implemented in many different fields, bringing socio-economic and environmental benefits and associated with sustainable development in many countries around the world. The market economy is considered a sustainable economic system, which is reflected in the following characteristics:

First, the important purpose of the CIE is to optimize resource use by circulating products, components and materials that are used at their highest utility in both the engineering and biological cycles, through the product or materials in the eco-economy will be continuously maintained, reused, recycled in order to no longer exploit resources or create waste. This has become one of the key components of carbon reduction plans in many countries. The circular economy also aims to decouple economic growth from resource use through reduction and circulation of natural resources, achieving both goals, responding to resource depletion input resources and environmental pollution in output development.

Secondly, the benefits that the concept economy brings in the socio-economic and environmental fields is directed towards sustainable development.



Circular economy creates high potential for economic growth and more jobs. Through the economical use of resources, businesses have the opportunity to produce at low cost by providing products and services with multiple uses. When compared with the extraction of common raw materials by the linear method, the CE model has the potential for greater material savings. While the demand for raw materials will increase due to the increase in world population as well as consumer demand, the operations in CE use less raw materials by focusing on prolonging the life of the materials.

The development of CE could lead to more jobs locally in primary and semi-skilled jobs. An August 2018 study on CE implementation suggested that 50,000 new jobs could be created in the UK and 54,000 in the Netherlands.

For businesses, the CE model helps businesses become more flexible, increase their ability to respond to changes in raw material supply, reduce raw materials, increase recycled materials, thereby creating profits. new profit. The circular economy also creates demand for new services for businesses to find business opportunities. New services that may arise are logistics services for the collection and support of recycled products, marketing and sales services for the purpose of extending product life, remanufacturing parts parts and components, product refresh service...

The environmental benefits of CE include reducing greenhouse gas emissions, positively impacting ecosystems and combating over-exploitation of natural resources, increasing the sustainability and efficiency of land use. in agriculture. The CE platform uses raw materials, optimizing agricultural productivity and reducing the negative externalities brought about by the linear model, avoiding greater pollution caused by the production of new materials.

Third, the transition to CE is the process of meeting climate change adaptation requirements. This is a process of adjustment to minimize the negative effects of the linear economy, create long-term resilience, is the way to a low-carbon economy, especially in industries. heavy. Developing CE could halve industrial carbon dioxide emissions by 2030, compared with 2018 levels.

The CE model in European agriculture has the potential to reduce the use of artificial fertilizers by 80% and thus contribute to the natural balance of the soil (5). Soil degradation causes an estimated \$40 billion in damages annually worldwide and has potential costs such as loss of biodiversity and loss of unique landscapes in addition to fertilizer use.

Fourth, CE is linked to many of the Sustainable Development Goals (SDGs) adopted by countries in 2015, including goals, such as zero poverty, responsible consumption and production, and sustainable development. sustainable cities and communities, promoting industrialization, inclusive and sustainable growth...

In Asia, Singapore is an example of promoting the circular economy early on. As an island nation with very limited natural resources, since 1980, this country has developed technology to turn waste into energy with the construction of 4 factories, treating 90% of the country's waste with capacity up to 1,000 tons of garbage/day. With the remaining 10% of waste, Singapore has creatively turned them into a garbage island Semakau - the world's first man-made "garbage island" - was born. These actions of the Singapore Government are aimed at a society where there is no waste, everything is recycled, in accordance with one of the leading principles of the circular economy.

The Korean government enacted a law on food waste disposal in 2013, specifying waste collection standards. Waste is placed in biodegradable bags or directly into metal bins equipped with scales and radio frequency identification chip readers. This law also stipulates that people will have to pay extra money, if the amount of this waste exceeds the allowed volume and 60% of that money is used by the Government to pay the cost of collecting and treating waste generated. Currently, 95% of food waste in Korea is recycled into compost, animal feed or fertilizer, with the remaining liquid after being pressed from the waste to be fermented into gas or bio-oil for use. This is a closed cycle from collection, treatment to recycling of products in the form of “symbiosis”.

China is also a typical country of approaching the circular economy model after a period of excessive use of natural resources and causing many environmental consequences. In 2008, China passed a bill related to the circular economy. In 2018, China and the EU signed a memorandum of understanding on circular economy cooperation. In 2019, the intercontinental cooperation of 200 enterprises of countries around the world and of China committed to the circular economy of plastic... China has built three stages to develop a circular economy, including: Small circle (implemented at the scale of factories and industrial zones); medium cycle (scales up more) and large cycle (performs across the entire economy). The circular economy in China is built according to a specific roadmap, from defining the concept of development to the goal of circular economy development to passing a legal system that is mandatory for businesses. ...

The circular economy is associated with the goals of environmental protection and sustainable development in different fields in Vietnam. The development of knowledge-based economy in Vietnam has certain advantages and challenges. About advantages:

Firstly, the guidelines and policies of the Party and State on the development of the market economy towards sustainable development have been confirmed. That is, Vietnam is continuing to perfect its socialist-oriented market economy institution, transforming from a linear economy to a theoretical one, with many new business models based on the application of science - technology and policy innovation, contributing to rapid and sustainable economic development. On February 11, 2020, the Politburo issued Resolution No. 55-NQ/TW, “On orientations of Vietnam’s national energy development strategy to 2030, with a vision to 2045”, which affirmed The decision must give priority to the development of renewable energy, the development of power plants using waste and waste to protect the environment and develop the eco-economy. The Law on Environmental Protection in 2020 officially legalizes the regulations on the eco-economy. The Resolution of the 13th Party Congress affirms the policy of “building a green economy, a circular economy, and an environment-friendly environment”, “Building a roadmap, mechanism, policies and laws to form it. , operating the circular economy model”.

Many State policies have been promulgated to aim at sustainable economic development, such as Directive No. 36/1998/CT-TW, dated June 25, 1998, of the Politburo, “On strengthening security work. environmental protection in the period of industrialization and modernization of the country”, in which focusing on supporting the application of clean technology with low consumption of raw materials. In 2016, the Government issued the National Action Program

on Sustainable Production and Consumption (SCP). In 2017, the Prime Minister approved the Project “Developing Vietnam’s environmental industry to 2025”, aiming to form an environmental industry that can meet the contents of the TH economy. In 2020, the Prime Minister approved the “National action plan on sustainable production and consumption for the period of 2021 - 2030”. In addition, there are a number of related laws and policies, such as the Law on Minerals, the Law on Natural Resources and Environment of the Sea and Islands, the Vietnam Sustainable Development Strategy, etc.

Secondly, CE has been receiving the consensus of people and businesses. With the development of science - technology and the Fourth Industrial Revolution, together with the promotion of digital transformation, there will be a great opportunity to explore and implement solutions to improve the efficiency of resource use. nature. The circular economy will also reduce the pressure of resource shortage, environmental pollution, large amount of waste, especially plastic waste. This contributes to the implementation of the Sustainable Development Goals (SDGs) and response to climate change, reducing and recovering almost completely greenhouse gases, with no emissions to the environment. Therefore, CE development will receive the consensus of the whole society.

From a business perspective, the CE platform also brings a new perspective on the relationship between the market, customers and natural resources, thereby contributing to the promotion of new innovative business models, breakthrough technologies. help businesses grow higher by cutting costs; reduce energy consumption and CO2 emissions; strengthen supply chains and conserve resources. The CE platform is a distinctly different way of doing business, forcing businesses to rethink all stages of production and business, from product design and production to customer relationships. The advantage of CE is that it helps businesses to produce and do business effectively, while aiming for a zero-emissions economy and environmental protection, thereby, well solving the relationship between economic growth and the impacts of environmental protection. to the environment.

Thirdly, many new production and business models that are closer to the private sector have been successfully implemented, creating many production and business opportunities and improving competitiveness for the economy. private sector in Vietnam. The model of eco-industrial parks in Ninh Binh province, Can Tho city and Da Nang city can be mentioned, saving 6.5 million USD/year; model of processing aquatic by-products; Vietnam Packaging Recycling Alliance (PRO).

The foreign direct investment (FDI) business sector is active in promoting the eco-economy in Vietnam through waste and by-product recycling plans, with modern and advanced waste treatment processes. and controlled transparently. Nestlé Company produces unburnt bricks from boiler waste, processes fertilizers from non-hazardous sludge and uses milk cartons as ecological roofing. Nestlé also plans to recycle and reuse 100% of its product packaging by 2025).

Heineken Vietnam has nearly 99% of waste or by-products reused or recycled, 4/6 breweries use heat energy from renewable energy and zero-carbon fuel. Unilever Vietnam implements a program to collect and recycle plastic packaging and sort waste at source... In June 2019, 9 pioneering enterprises founded the Vietnam Packaging Recycling Alliance (PRO Vietnam).

In the textile industry, parts of rags are recycled by businesses into new fabrics, and pants and shirts created using part of this recycled fabric are labeled with CE products. Parts, such as the grounds and husks of the coffee beans, are recycled and manufactured into standard coffee cups that are also CE labeled.

VinFast automobile factory also produces electric car products to reduce environmental emissions...

In the construction industry, with measures to increase the use of recycled and unburnt building materials, it is possible to assess the life cycle of buildings and promote the development of a secondary market for building materials, promoting promote innovation in resource use and effectively address material-intensive problems.

Besides the above opportunities, CE implementation in Vietnam also faces many difficulties and challenges. The biggest challenge in adopting the CE model is the cost of recovering value from waste. The circular economy is a closed model that uses the waste of one cycle for the input of the new cycle. In Vietnam, the amount of waste is forecast to double in the next 15 years. Vietnam's waste recycling rate is less than 10% of total waste. This is a small percentage compared to countries that have been implementing the CE model. The amount of plastic waste and plastic bags nationwide currently accounts for about 8% - 12% of domestic solid waste. If on average about 10% of plastic waste is not reused but completely disposed of, the amount of plastic waste and plastic bags discharged into the environment is approximately 2.5 million tons/year. The high rate of waste makes it difficult to manage the collection and recycling of waste resources.

Second, the current economic system in Vietnam is geared towards the needs of a linear economy. Enterprises, when making economic decisions, give priority to consider market signals, not paying much attention to external factors that are positive or negative to society and the environment. The production and business models based on the market economy are not yet popular, because most businesses are still operating according to the logic of the linear economy, with objectives focused on creating short-term value, while ECO is a model that creates long-term value.

Third, the legal conditions and infrastructure for CE development are still lacking, with many inadequacies, making it difficult to deploy new business models. The circular economy requires a production and development strategy that uses the product as long as possible from the outset, and a plan to bring materials back into production later. Achieving that requires large investments in waste collection, segregation and recycling infrastructure.

In addition, difficulties and challenges also come from the still small demand for cyclic products and substitutes; lack of qualified and technical experts to implement this new economic model; The current measurement of gross domestic product (GDP) index has not focused on considering social and environmental factors, and has not encouraged value creation in both these areas.

From the practice of some countries in the world and the perspectives on the circular economy, in order to promote CE development in order to contribute to sustainable development, in the coming time in Vietnam, it is necessary to implement synchronous solutions. following law:

**On the State side:**

- To promote the development of circular economy in Vietnam, it is necessary to implement synchronously solutions from raising awareness to perfecting institutions and organizing implementation. Accordingly, right from the early years of the 2021 - 2030 period, it is necessary to focus on implementing solutions to promote the circular economy in Vietnam in order to take advantage of cooperation opportunities in accessing and receiving technology transfer. technology for the sustainable development of the country. In particular, the State needs to well perform the tectonic role so that businesses and people can play a central role in building and developing a circular economy in Vietnam.

- Completing the legal corridor to serve the development of the circular economy. In particular, it is necessary to specify the responsibilities of manufacturers and distributors in the recovery, classification, recycling or payment of disposal costs for discarded products based on the number of products sold on the market. school; project management according to the life cycle, establish a roadmap for construction and apply environmental standards and regulations...

- Build an in-depth economic growth model, effectively use input resources, apply science and technology to industries, especially waste treatment to regenerate new materials. Regulating a roadmap to replace fuels, products using hazardous materials, single-use products with environmentally friendly fuels and materials, reusable products, prolonging their use life. usefulness of the product.

- Building a database on the knowledge economy associated with digital economic transformation and the Fourth Industrial Revolution. Promote cooperation and linkage between economic sectors and social organizations in the development of the knowledge economy in Vietnam, in which the Government plays a leading and creating role.

- Develop a separate circular economy development plan or integrate the implementation of circular economy development in the local strategies, master plans and plans for development of sectors, fields or socio-economic development of the region. direction.

**For Businesses:**

- Encourage enterprises to participate in planning production and business strategies in a sustainable way, applying the economic models, production and business associated with environmental protection. Strict regulations on corporate responsibility for waste generated by enterprises. Specifically:

There is a need to further raise awareness among manufacturers and the public about their responsibilities towards products throughout their life cycle.

- Focus on prioritizing financial resources to transform production methods; at the same time, the development of the circular economy must be associated with scientific innovation and access to advanced technology. In the context that the Fourth Industrial Revolution is taking place strongly, affecting all areas of social life, research and promotion of technological innovation, moving from the real world to the digital world will be the foundation of the future. large opportunity

to implement circular economy development, bringing higher growth efficiency. To develop a circular economy, it is necessary to soon build a team of good experts, to solve problems well, from the beginning to the end of the whole process...

In addition, businesses must consider solving problems for the immediate short-term benefit or accepting to go slower to accelerate in the future. Because investment in new technology will push up product prices, which may affect the consumption and competitiveness of products and services in the short term. However, if we continue to follow the path of the current production model, we will face risks in the future, when the source of raw materials and fossil materials is increasingly depleted.

#### **For society:**

Propaganda for people to change their thinking about consumption towards using environmentally friendly products and products with CE marking. Raise awareness of waste separation at source to reduce costs in waste use and recycling. Bringing into education and training programs at all levels the knowledge of mathematical economics in order to provide the basic knowledge of mathematical economics; at the same time, training human resources capable of operating the knowledge-based economy model associated with innovation and use of high technology.

Circular economy development is a global trend and Vietnam is not an exception to that trend. That is the best way to deal with the relationship between economic growth and negative effects on resource depletion, pollution and environmental degradation, or in other words, no longer have to trade-off between development and environmental degradation. economic and environmental protection, simultaneously realizing many goals of sustainable development.

To realize this orientation, it requires the efforts of all sectors of society, especially, businesses are the central driving force, the State plays the role of creating, leading, and the community participates in the real world. presently.

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## **FIRM CHARACTERISTICS AND GOVERNANCE QUALITY AT VIETNAM STATE GROUPS AND CORPORATIONS**

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**Abstract:** *The article investigates the relationship between corporate characteristics and governance quality at state-owned enterprises and corporations in Vietnam. Governance quality is measured by the corporate governance index proposed in Dau Huong Nam & Dinh Trung Son (2022), adjusted to fit the research object of state corporations and corporations. The regression results show that equitization, financial leverage and the transfer to the State Capital Management Committee (VNSC) are positively and statistically significant with the corporate governance index.*

**Keywords:** *corporate governance, corporate governance index, Vietnamese state-owned enterprises*





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Quận Bắc Từ Liêm, Hà Nội

In 100 cuốn, 20,5x29,5 cm. In tại Công ty Cổ Phần sách và Phát triển Giáo dục Việt Nam  
Số nhà 73 Tổ 34, Phương Hoàng Văn Thụ, Quận Hoàng Mai, Hà Nội  
Số xác nhận ĐKXB: 2510-2022/CXBIPH/03-67/TC.  
Số QĐXB: 210/QĐ-NXBTC ngày 26 tháng 7 năm 2022 . Mã ISBN: 978-604-79-3284-9.  
In xong và nộp lưu chiểu năm 2022.